

A N
E S S A Y
O N
Sickness and Health;

Wherein are contain'd,
All necessary *Cautions* and *Directions*,
for the Regulation of DISEAS'D
and HEALTHY PERSONS:

I N W H I C H
Dr. *CHEYNE*'s
Mistaken OPINIONS in his late ESSAY,
are occasionally taken Notice of.

The SECOND EDITION.

By *EDWARD STROTHER*, M. D.
Coll. Christ. Cantab. & Coll. Med. Lond. Reg. Colleg.

*Nunc, ratio quæ sit Morbis, aut unde repente
Mortiferam possit cladem conflare coorta
Morbida vis hominum, generi—
Expediam.*

Lucret. L. 6.

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ESSAY

On the Nature and Extent of the

Power of the Legislature in the

State of New York

By JAMES C. HARRIS

Author of "The Constitution of the State of New York"

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T O T H E
Ingenious and Learned GENTLEMEN,
Sir HANS SLOANE, Bart. M. D.
PRESIDENT of the College of Physicians:
A N D
RICHARD MEAD, M D.

FELLOW of the College of Physicians.



HE near Relation this Part
of Physick has to Prescrip-
tion, the Necessity there is
of a strict Observance in *Regimen*, an
utter Neglect of Patients on this
Point, as if their Healths were to be
regain'd by Medicines only, and the
Directions Physicians are so often
oblig'd to inculcate on this Point,
determin'd me to consider what
cou'd be said on this Subject.

AND none having greater Share
in this Affair, than your selves; these
Sheets cou'd not appear under the

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Names of more popular Gentlemen; the Permission of this Address will give the Subject a Reputation, will stifle the Malevolent, and will encourage the Patients close Adherence to Orders : But what Errors are found in the Performance, are my own, and are chargeable upon my self only.

THE Confidence the World places in you for their Healths, is easily guess'd at by the Numbers and Success. The Dignity of our Profession can never be so well supported, as by Skill and Industry ; and as you, Gentlemen, have given sufficient Proofs of your encouraging these, it is highly reasonable the World shou'd esteem such as the greatest and most deserving Patrons of Literature ; and, as the latest often proves the casting Suffrage, these are the Wishes of,

GENTLEMEN,

Your most humble Servant,

EDWARD STROTHER.



THE
P R E F A C E
TO THE
R E A D E R.

 *How low soever this Subject may appear, it requires both an exact Knowledge, in the Materia Medica, and of the Nature of Diseases; this will appear evident from many Instances in the following Sheets: If Prescription demands a nicety of Judgment, it is because the Nature of the Disease must be known, that a proper Remedy may be order'd; and*

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as Diet; and the other Non-naturals must be level'd at the same Mark, they must be univocal with the Remedies prescrib'd.

It is a great Mistake to imagine the Non-natural shou'd never be varied in the same Disease; because the Name of a Disease does not include the Causes of it; and they are to be alter'd with the Cause: I have taken some Pains to overthrow this general Error; and I hope, whoever will give themselves the Trouble to peruse this Treatise, will find I have made my Point good in as easy a Manner, as the Subject wou'd bear.

It became necessary for me, in order to gain my Purpose, to descend to many Particulars in the Symptomatology; which, being no disagreeable Digression, diverts, instructs, and confirms the Necessity of the various Procedure in the Non-naturals, suitable to the Causes of the Disease then reigning.

You here meet with the Signs of many Diseases, with the Causes of those Distempers,

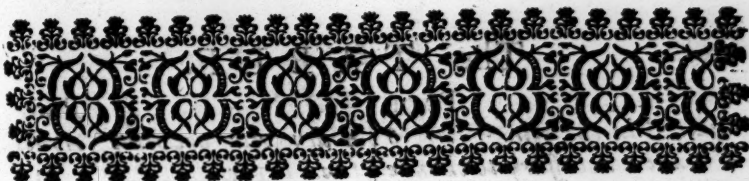
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pers, with the Manner in which each Symptom is introduc'd, and with its Cure, as far as it relates to the Non-naturals; for without these, it wou'd have prov'd a bare ipse dixit; and as Authority alone is never to be embrac'd without Reason to back it, so I wou'd not advise any young Gentleman to give Credit to bare Assertions. This is one of the greatest Abuses that ever crept into a Profession; we give Drugs high Names; and declare them excellent in Diseases; which the World, by following the Advice, finds a vulgar Error: It is highly necessary, that he who proposes any Method, shou'd at least, Name all the Circumstances of the Disease in which a Medicine succeeded, or give his Reasons why he acts; for hypothetical Gentlemen building up Indications without a Ground-work, and Men of Experience giving us Details of Success, without Circumstances or Reasons, are equally useful to the World; since Posterity dares rely on neither.

Wherein I have differ'd from any Gentlemen of the Profession, and more particularly

from Dr. CHEYNE, in his late ESSAY, I hope there has been sufficient Reason for so doing; and I have taken Care to use all those I can't agree with in Opinion, in as handsome a Manner, as I ought: I blame no Man for thinking otherwise than I do; but variety of Sentiments gives me no Title to use a Brother with Incivility. I have taken great Care to support my Assertions with Proofs drawn from Experiments, Reason and Experience; but shall be proud of being convinc'd of any Error in this Performance, which I wou'd retract with Pleasure and Acknowledgment.

The first Part of my Eudoia, concern'd Health principally, and this Performance was reserv'd till a proper Opportunity offer'd: And now I have inform'd you what you are to expect, your Acceptance is all the Return I wish for.



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CHAPTER IV
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Coll. Chris. Cantab. & Coll. Med. Lond. & Coll.
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 and
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 and



A N
E S S A Y
O N
Sickness and Health, &c.



Of the Six Non-Naturals.



THE Word, *Non-Naturals*, denotes the Air, our Diet, Motion and Rest, Sleeping and Watching, Evacuations and Suppressions, and the Passions of the Mind. If we had the Art of managing these mathematically, it were possible to prolong Life to

a great Period; and our Mistakes committed in these, are the Occasion of Diseases: They are so extensive as to contribute towards our Recovery also; and therefore I design here to take a View of them, both so far as they contribute to prolong Life, and to restore Health. This is called in Physick the *pars Hygieine*, from *ὑγιεινὰ* which signifies *Health*. So many Authors have treated on this Subject, as have wrote Systems of Physick; but, to say the Truth, few have had Regard to all the Circumstances. *Sanctorius* is one of the most remarkable; but he treats only of that Part which relates to keep the Sound in Health; which Author, as well as *Hippocrates*, and some others, I have abridg'd in my * *Euodia*: Here I have also consider'd this Part of Physick, so far as it contributes to restore *lost Health*; which *two* contain the whole *Hygieine*. Such as it is, the Publick are welcome to it: If it prove of Use, I have my Aim: I am not conscious of any Error it contains, which is all I dare venture to say for it.

* Part I.



CHAP. I.

Of the AIR.

THIS Element is of so great Moment to Mankind, that, as we can't live many Minutes without it, a Physician shou'd give exact Cautions to his Patients in the Choice of it: In Health, how to preserve it, and in Sickness how to recover their Vigour; and to contrast with the Distemper they labour under. But this cannot be effected without taking a View of the Qualities of the Air; and also of the Nature of Diseases. The Air is a Composition of many Particles, floating in a subtile *Medium*; to be *pure* and *sincere*, it should be often purg'd with *Winds*, from its noxious Vapours; it should be now and then water'd with gentle *Rains*, in order to wash down the Salts abounding in it; it shou'd be *temperate*, that is, neither inclining to Heat or Cold; it should be *heavy* to a certain Pitch; it should have no *Corruption* in it, drawn up to it from the Earth, or any neighbouring Places. Such an Air is fit for healthy People to breathe in.

Such *Air* stretches the Lungs, and fills all the Vesicles, and so sets the Blood forward in its due Course; it therefore assists in promoting Perspiration, and in preserving Health: The Advantages of *Respiration* and *Perspiration* are such to Mankind, that nothing but Death and Diseases must ensue any Deficiencies in them: And as it mingles with our *Spittle*, it also has some Share in creating or destroying our *Appetite*.

THE Two most remarkable Properties of the *Air*, are its *Weight* and its *Elasticity*, by which it rushes into all Corners; the more weighty it is, the less it acts by its Elasticity; Cold increases its Weight, and Heat the Elasticity: These distinct Powers therefore are equal, but contrary. By these Powers it is, that the Air rushes into the *Trachæa*, *Bronchiæ*, and Vesicles of the Lungs, and blows them up, so that the Circulation may succeed with Ease; the Blood, upon their sinking, is compressed, and broken into small Globules, and is driven into the left Ventricle, which sends it into the whole Body. If Respiration then goes successfully on, the Blood is receiv'd and return'd: It is prepared to enter the minutest Vessels; and by this Mechanism, as one of the chief, we are continued in Life.

PERSPIRATION is a Consequence of a regular Circulation; the Pores are fram'd for exhaling the *Steams* of our warm and
rare fied

Sickness and Health, &c. 5

rarefied Blood, which are so numerous, as to hurry on dangerous Diseases upon their Retention, particularly if we feed plentifully: And the Air contributes to create or destroy our *Appetites*, because it is evident, by many Experiments, that the Air contains an acid Spirit: 'Tis this Spirit which mixes with the Salt of Lime in Walls, and makes the *Halonitre* we find upon them; it is this Spirit in the Air, which makes our Brass-Locks and Hinges turn green, by extracting the Verdigrease; 'tis this Spirit which enters into Vitriol expos'd, after we have drain'd it of its Oil, and makes it, upon Redistillation, afford an acid Spirit again; and therefore it is this Spirit which gives Citizens keener Appetites in the Country than they have in Town: It mingles with their Spittle, and is swallowed plentifully into the Stomach; it twitches it, and gives them a Sensation of Hunger: And the Smoak in Cities, blunting this Quality of the Air, makes their Appetites less keen. A pure Air, therefore, is simply necessary for Life; it keeps our Fluids, *cæteris paribus*, in due Order, that they may not be too much rarefied, nor too compact, that they may be push'd forward into the utmost Recesses of our Body, that by Motion they may be divided into minute Particles, and may thereby be prepar'd to enter into Strainers fitted to receive them: It helps

to make our Fibres duly elastick, by which Force, the Fluids are regularly returned: And, in short, we advise this Air to all who are, or desire to continue, in a perfect State of Health. However, as such Air is hardly found any where, it is impossible to avoid Sicknes long, unless we recompense the Damage receiv'd from the Foulness or other bad Qualities of it, by some one or other of the Non-naturals: This Skill we gain by Experience; which, however, is best learn'd out of the Books of Physicians, treating on these Subjects. Every Country has some Properties of Air inconvenient for Health; for some are too hot, others too cold; others are fenny, whilst others are mountainous; all which Differences give Rise to some Disorder or other; which, if not regarded and amended by the rest of our Non-naturals, we must of Necessity suffer for it; and when we are under the Lash, and disabled from relieving our selves by such a *Regimen*, we must then change into an Air stock'd with Qualities contrary to the Nature of our Disease.

I have already * given a Detail, out of *Hippocrates*, of what Diseases arise from certain *Airs*; which Work you may consult: And have there also added the Reasons of such Effects; to which we may add, too

* Euodia Part I.

Sickness and Health, &c. 7

light or *too heavy* Air : The Weight of the Air diminishes or increases ; so that it is heavier by a great deal at one Time than another : The Reasons of this Weight, as Dr. *Halley* thinks, are either an Accumulation, or heavy Vapours, or an Evacuation and lighter Vapours blended and floating in the Air. Air too heavy, makes a gross and viscid Blood and rigid Fibres ; so that all the cold Distempers arise from such an Air : Whereas Air too light, renders our Blood too thin, and often makes our Fibres too lax, by over-stretching them.

THE Air of *Fenns* is moist, and stock'd with Steams, which are various, according to the Minerals that lie under them : From whence it follows, that besides the Moisture, which relaxes our Fibres, and stops our Perspiration, there are Qualities, unknown, hourly drawn up into it, and which a Physician, who lives upon the Spot, shou'd be well inform'd in, if he aims at his Patients Safety. The natural History of Counties must be consulted on this Affair : Without the peculiar Nature of these Steams, Diseases will arise, which can never be prevented. Moisture is a *Menstruum* for Salts of any kind, and some Salts fit Sulphurs also for a Dissolution ; so that both Salts and Sulphurs may float in such an Air : And when Air is thus deprav'd, what Mischiefs may we not expect from such a Bosom-Enemy ?

No particular Directions can be given for the Relief of such as become Valetudinarians from such a Cause, till the individual Nature of the Mixture is discover'd ; for only Effects must carefully be regarded, till they fish out the real Mixture. However, if Necessity obliges People to dwell in such a County, they must study to amend the Moisture of their Abode, by removing Woods from them. It has been observ'd, that our *American* Colonies have been more healthful, since they have fell'd their Woods, which render'd the Air moist : They must also dry up their Ditches, and keep their Houses well air'd with large Fires : They must exercise often and much, in order to exhale the Superfluities retain'd by the Stoppage of Perspiration ; which they would do well to promote also, by frequent Brushing : They must take less Sleep than others ; they should give themselves up to a chearful Life ; they ought to drink Liquors, and eat Meats of a warm Nature ; and if it were known from what peculiar Minerals those Salts and Sulphurs did exhale, it wou'd be easy to find out some Specifick against their noxious Steams. But for such who are under no Obligation to dwell amidst Destruction, let them hasten their Departure, if they wou'd avoid Consumptions, Agues, Fevers, Fluxes, Quinzies, Pleurisies, and a long Train of violent and almost

Sickness and Health, &c. 9

most invincible Diseases, such as *Essex*, *Lincolnshire*, *Lancashire*, and other moist Counties fatally experience.

A *dry Air* contains saline Particles in it, undiluted; and therefore, well fitted to occasion Diseases proceeding from Acrimonies: These Salts are swallow'd down, and even enter our Pores; they introduce Consumptions and Dysenteries: Not only do they enter our Blood, but the Drought promotes Perspiration too much, and exhales the watery Parts, and leaves the Salts in Clusters within us; so that the Fibres may easily be fretted into Ulcers, Pains, Inflammations, and such-like Disorders. Since then, this is the Case in a long, dry Season, which however is seldom the Case in *England*, and were it, yet it is experienc'd to be universally healthful; we are now to consider how to remedy the Excess of Perspiration, and the Abundance of Salts nestling in our Fluids, by the other Non-Naturals. Our Diet must consist of such Victuals and Drinks as will not easily perspire, and as contain few Salts in them; wherefore Melons, Cucumbers, Mushrooms, Lettice, Spinage, and such cooling Things, are convenient; Milk-meats, Water-drinking, Gruels, and Panado's are to be used freely: We should Exercise little, Sleep much, wear thin Clothes, and live a calm, serene Life. As *Catarrhs* depend upon a Retention of
too

too great Moisture, they who are subject to them, should, if they can, retire to a Place where the Air is dry : It is for this Reason we order consumptive Persons, who become such by Defluxions, at the Beginning, to repair to *Kensington-Gravel-Pits*; it is a dry Soil, in as much as the Gravel being very deep, sucks up all the Moisture, and little of it is drawn up again into the Air, so that Showers of Rain do little Harm. The same holds good in *Asthma's*; for where the Lungs are habitually crowded with Humours, the Retention of the *Perspirabile* flows thither, as to a Sluice, and endangers those Inflammations of the Lungs *Asthmaticks* are so often subject to: And if Spittings of Blood depend upon a waterish Constitution, as they do in those frequently liable to Catarrhs from catching Cold, the Dryness of the Air, preventing the Stoppage of Perspiration, cuts off the original Occasion of such Spittings; for of it self it does not contribute towards the Relief of this Disorder. It shares greatly in preventing Agues, and feverish Disorders, when it is so temperate as it generally is in *England*; for without Perspiration, we must expect Catarrhs and Fevers of all Kinds. Let us but take a View of the *Marshy* Parts, and *Downs* of *Kent*, and we shall soon perceive the Difference between their Healths. The Peruvian Bark goes off in the former, whilst the

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the latter starves a Physician. *Rheumatick* Pains, hatch'd and foster'd in a moist Air, are readily remov'd by shifting into a dry Habitation, unless the Blood be much deprav'd. In short, wherever a due Perspiration is required, as it is in most Cases from Fulness, Patients must be advis'd to live in a dry Soil, that the Atmosphere of Vapours exhaling from the Earth may be as small as possible. Few are so weak as to chuse a moist Soil for building in, and now a-days Moats are never built around Gentlemens Seats; and large Nurseries ought also to be forbid, because it is impossible for such Seats to be wholesome, where they are surrounded with so much Moisture.

THIS puts me in Mind of a remarkable Story: The Gentleman who shew'd Dr. *Radclyffe Holland*, told me, He was order'd by King *William*, to shew him that Country, and he had given private Orders to the Coachman, when he came upon the Bridge of the Lord *Arbemarle's* House, to turn the Faces of the Horses towards the Canal; which Orders being obey'd, the Gentleman then ask'd the Doctor, How he lik'd that Prospect (of a Canal a Quarter of a Mile long, and finely wooded on each Side, down to the main River;) the Doctor swore, *Not at all*; for, said he, if this were my Seat, I would cut down all this Wood, and
choak

choak up this Canal: The Gentleman spoke of the *Visto*, and the Doctor of *Health*. And surely there is no need of Canals in a moist Country; and therefore in moist Counties Drains are absolutely necessary. That Person, who keeps well in Health amidst so much Moisture, must be near akin to an *Otter*.

WE come next to consider the *Heat of the Air*. As Air is elastick, Heat augments this Quality, and evolves the Particles of the *Æther*, so that it then occupies a much greater Space than in its natural State, and, Bulk for Bulk, weighs less. The Effect of this Rarefaction is very considerable in human Bodies; for the Globules of the Blood grow larger thereby, in as much as the Air they contain is also dilated to the same Degree as that of the Atmosphere; therefore in hot Weather the Blood is rarefied, and its Principles are exalted, so that we fall into Fevers and Eruptions, our Perspiration is encreas'd, and Effervescences are raised in our Fluids. We study to balance this Excess of Perspiration by a cooling and diluting Diet, which clogs the Hurry of our Fluids, and consequently curbs so great an Evacuation: Sleep and Rest contribute their Share in abating the Circulation; for Motion and Watching would move the Blood and Spirits too excessively. We try to promote a Stool or two every Day, which keeps our
Body

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Body cool, and we keep free from any excessive Passion. Immersion also is convenient in such a Case; it closes the Pores, and, if we stay long in, chills our Blood. However, there are certain Distempers that a hot Air is very conducive in: *Cachecticks* of a cold, phlegmatick, watry Constitution grow easier by removing into a warmer Country; the *Anasarca* abates, when other Things have fail'd, by the * *Psammismus*. In a *Hydrocephalus*, the Warmth of the Nursery is absolutely necessary; it exhales the *Serum*, which abounds too much in the Fibres. 'Tis the Warmth of the Fomentations which makes 'em effectual in this Distemper. *Cold Headaches*, if they are habitual, are best remedied by removing into a warmer Country. † Heat, says *Hippocrates*, *softens the Skin, lessens Pains, mitigates Shiverings and Convulsions, takes off a Heaviness of the Head: It is useful in broken Bones, if they are bare, and in Ulcers of the Head; and also in Herpe's any*

* Burying up to the Neck in warm Sand.

† Calidum suppurationem faciens, non in omni ulcere, maximum securitatis præstat indicium; cutem emollit, extenuat, dolorem lenit; rigores, convulsiones, tetanos mitigat; capitis gravitatem solvit; ossibus fractis plurimum prodest, maximè si nudata sint; multoque magis iis qui in capite ulcera habent: iis etiam, quæ moriuntur aut ulcerantur à frigore, herpetibus: Denique exedentibus sedi, pudendo, utero, vesicæ, his omnibus calidum amicum & decretionem, frigidum inimicum & interimens. *Aph. 22. Sect. 5.*

where.

where. The Reason of these Headaches is a Stoppage of Perspiration, and a Grossness of Blood ensuing thereupon, so that till the Blood becomes rarefied, and the Perspiration is restor'd, the Distemper will continue. 'Tis a hard Task to cure *Palsy's* in the Winter, because the Cold hinders the Perspiration, and thickens our Humours; whereas in Summer our Humours are rarefy'd, and the Perspiration is encreas'd, and all this is effected by the Heat of the Air, especially if it be dry. The *Bath* Water, by its Heat alone, attenuates our Fluids, and sets them in Motion, and cures this Distemper. I speak of *cold Palsy's*, where the Blood is gross by the Abundance of Phlegm; for in such *Palsy's* as are produc'd by a genuine Rheumatick Blood, and are fresh, by this Mistake you would not remove the *Palsy*, and moreover you would hurry on a Phrenzy. In fine, wherever Rarefaction is known to be of use, advise your Patients to remove into a warm or hot Air.

WHEN the Air is *cold*, it abates of its Elasticity, but encreases in its Weight, as we find by the *Barometer*: It is therefore that our Blood in Winter becomes more compact and gross, and less apt to steam and throw off *Effluvia* by the Pores; wherefore Winter Diseases are Coughs, Asthma's, Pleurisy's, and Inflammations of the Lungs; for want of Perspiration the Blood is fill'd
with

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with Contents which ought to have evaporated into the Air ; and with the Abundance of acid Salts, we have already shew'd to abound in the Atmosphere, it thickens and stops in the smallest Channels, and so brings on inflammatory Disorders. Now it is that every one knows we must keep warm, by heaping on Clothes, and making our Chambers hot : We must eat more plentifully, and drink more generous Liquors ; Exercise comes in Fashion ; and, so we keep warm, Sitting up late is conducive ; because Watching, as * *Sanctorius* observes, moves the Blood from the Center to the Circumference ; that is, it makes the Blood move swifter, and, by Consequence, destroys its Cohesion and Grossness, and enlarges the Perspiration. The Passions should incline to Mirth and Jollity, which move the Blood briskly on ; and for this Reason, Assembly's, Comedy's, Opera's, and Gaming do usually go forward. However, there are many Diseases a cold Air contributes to cure. In *Madness*, the cooler the Air is, the less their Juices ferment ; and such as are held with this Disease, are always kept cool : They bear Colds and Hardships with Ease, and they serve to curb the Fury of their Spirits. In Phrenzy's also, we must keep them as

* Aph. 45. de Somno & Vigilia.

cool as possible. A warm Regimen, confining frantick Persons to Bed, or keeping their Rooms too warm, encrease the Hurry of their Spirits, and contribute to render their Disorder mortal. In Consumptions, when we have conquer'd the Defluxion, a cool Air, so it be dry, is useful for closing up the gaping Mouths of the Glands seated all along the Canal of the Lungs, for want of which Physicians give Stypticks internally to amend the Laxity such a Disorder leaves behind it. In a *Spitting of Blood* this Coolness serves to close up the Vessel, and occasions Blood to cake upon the Orifice, and so heals it. In Constitutions apt to faint with Heat, how suddenly are such Faintnesses, or the Dispositions to them reliev'd by Admission of cool Air? The Heat that rarefies the Blood too much, makes the Circulation so brisk, that the Heart is not capable of pushing it forward, but the cool Air presently condenses their Blood to a proper Consistence, nor does it then hurry on; so that the Heart receives and returns its Load with Ease. Cool Air is remarkably useful in hectick Fevers, so that *Galen* advises such People to live under Ground in Summer. This is an uncomfortable Advice; but the Country Air, which is cool and fresh, is almost a present Relief to hectical Citizens. Whenever then the Blood and Juices are found to be too thin, too bilious, and

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too hectical, advise a cool Country Air to such for their Relief.

FROM what has been already taken notice of about the Gravity of the Air, 'tis very easy to see, that the more rarefy'd Blood becomes too much dissolv'd, by exposing Persons to too light an Air. I remember that *Acosta* speaks of a Spitting of Blood he got by mounting up to a high Mountain in *America*, which might possibly happen to any Person whose Blood was too thin, and whose Lungs were very tender. The Column of Air on high Mountains is much shorter, and, consequently, lighter, than that of Plains. Captain *Halley's* Trials on *Snowden* Hill prove, that the Mercury settles an Inch for every 310 Yards of Height; and if *Acosta's* Hill was as high as *Snowden*, the Mercury would then settle four Inches; so that the Column of Air in such a Height, and of an Inch Diameter, would be lighter by 14320 Grains, that is, by 21 Ounces, 6 Drams, and 2 Scruples; from whence it would follow, that the Blood, having such a Load taken off from it, would swell, and distend the Vessels, and, at least, would occasion a Shortness of Breath. The same Dilatation would happen to bottled Liquor carried to that Height. The Air contain'd in the Liquor would rarefy to the same Pitch with the Air without, and crack the Bottle, and make it fly into a thousand Pieces.

ces. They who live in so light an Air, are generally People of quick Parts, their Blood and Spirits are of a loose Texture, and their Vessels are enlarg'd; so that the Brain is supply'd with all that is necessary for performing its Functions well: And moreover, their Fibres are pretty strong and elastick, because mountainous Places are generally cool, as appears by Snow's Lying all the Year round on high Hills; as on the *Alps* in *Italy*, and on *Cheviot* in *Northumberland*. Besides they are generally rocky, which makes them cool and void of Vapours; for were they moist of themselves, their Fibres would be flabby, and they would be subject to Dropsies, which they are not. When *Cold* immediately succeeds *Heat*, Perspiration is remarkably curb'd, and that brings on Fevers or Coughs; and when Rain and cold Weather succeed dry and hot, then it is we find tender People fall down in Pleurisy's, Fluxes, Fevers, Coughs, and rheumatick Pains: Here is a Change from a rarefy'd Air to a condensed one; and from a rarefy'd and elastick, to a compress'd and non-elastick *Medium*; such sudden Changes all Islands are subject to, and consequently the Blood and Fibres must suffer in Proportion: Cold and Moisture do both stop up our Pores, and subject us to all the Diseases (which are very numerous) a Repletion of aqueous, sulphureous and saline Humours are capable of
pro-

producing; and such is our *Perspirabile*, according to the learned *Bellini*.

A *putrified Air*, is when the Particles of Air, (which as Dr. *Hook* observes, are watry, saline, and sulphureous too) have never been purg'd by Winds, but have stood still a long Time, and its saline and sulphureous Particles have fermented together, and have contracted a dampish Mustiness: Rooms in moist Houses, which have not been air'd, either by Fires, or opening the Windows and the Bed-clothes, and other Furniture of these Rooms, also abound with a *putrid Air*: 'Tis as wholesome to lie in a Grave, from whence dead Bones have been dug out, as to sleep in such a Chamber: Such Beds are fitter for producing Mushrooms, than for Christians to sleep in; they are only proper for hatching Moths and Vermin. All Caves and Dungeons have this putrid Air in them; and any Place, which is on all Sides so surrounded with Hills, as to give no Out-let to the Air, (for Winds blow horizontally; and therefore only scum off the Top of it) must needs abound with such a putrid and malignant Quality: Steams of various Minerals exhaling from the Earth, standing still, and being unmov'd by Winds, must breed such a malignant Quality in the Air. It is not easy to know what this Air is in particular, but so much we know, that it stops Perspiration;

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ration; it cannot be drawn into the Lungs without Reluctance, by reason of its Smell; it corrupts the very Stuffs and Linnens, which demonstrates its *Acidity*, and throws us into cold Sweats: There is no doubt but epidemical Distempers may arise from such *putrid Air; Moisture, and a close Warmth*, dispose the Air to it. If Seats moated round, are often infested with it, the Calmness of the Weather, and this Moisture together, join to make a most unwholesome *Medium* to breathe in. *Damps* are a corrupted Air; the later Philosophers suppose that the Earth (attracting Acid and Water) makes a Salt; they suppose that the Earth grows feeble in attracting, and then the acid Spirit is lost, (rather chang'd) and the Air putrifies; and if the Air of a whole Country putrifies, pestilential Diseases arise, because the Air becomes universally infectious; and as excessive Heats, like Fire, destroy this Spirit, they also bring on pestilential Diseases. I have already shew'd, the Air contains an acid Spirit; and were we inquisitive enough, as Mr. Boyle advises, we might discover many other Peculiarities residing in this *Medium*: It wou'd not then appear strange, why reddish or black Eschars are produc'd upon the Skin in pestilential Cases; for the Air sometimes contracts by Attractions and Repulses, that is, by Fermentation, almost a caustick Quality.

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lity. All Authors do agree, that there is either a caustick Acid, or volatile Salt in the Air; but then this Question might arise, If the Air is actually caustick, none could escape; because it is equally apply'd to all, and all breathe and swallow it down with their Spittle alike; wherefore it appears to me, as if some minute Conditions were yet wanting to make it so: And as most Peoples Juices are stock'd with fit Particles for the Purpose, therefore most People are seiz'd in so deprav'd a Season; and the Reason why some few escape is, because their Blood has Particles of such a Nature, as to blunt these Salts, or stop their Fermentation: If this is not the Case in epidemical Diseases, we are to seek, I'm afraid, for a better Reason; none, that I know of, being so adequate.

HAVING descended to most Particulars, we now come to consider the Conditions of the Air in certain Places: I have already observ'd, that *Seats* plac'd moderately high, have a thin, but *pure* and *dry* Air; the *Thinness* depends on the Height, the *Purity* on being expos'd to the Winds, which purge it, and the *Dryness*, on the Moisture's dripping down from it, upon all rainy Seasons: It must follow then, that such a Seat will be healthful, (because the Blood will be gently rarefied) it will be kept pure and sweet, and be without Moisture; it will

therefore breed a good Appetite, promote Perspiration, and be elastick.

SUCH as are placed on a *Slope*, with Mountains on the East and South Side, must be unwholsome, because they have little or no Sun comes to them, and consequently will be moist and foggy; the Vapours which shou'd be exhal'd, will lie upon the Earth, and hinder Perspiration; and if Hills lie on the North and West, the Heat will so beat upon them, as to draw up vast Moisture, and make the Country moist: Hilly Countries are generally moist; the Height of the Hills dashes the Clouds, and makes them either gleet down into the lower Grounds thro' the Crannies of the Hills, or drop into Rain, witness Mr. *Townley's* Account of *Lancashire* *: Where he computes, that they have twice as much Rain at *Townley* as at *Paris*, and more than they have any where in *England* besides. So that Mountains are either rainy or snowy, and are therefore either too cold or too moist to be inhabited.

Champaign Countries are generally wholesome; but I would have this *Plain* to be well guarded against the Moisture of the neighbouring Hills; there ought to be Drains, natural or artificial, to carry off all Moisture: It must not be a Vale surroun-

* Phil. Transact. No. 208. p. 51.

ded with Hills, tho' at a great Distance, for then it wou'd be a Reservoir for all the Waters they can deliver into it: But it must be a good Soil, under which is a Sand to suck up all the Moisture of the Heavens, for it ought to have none of its own. The deeper they are oblig'd to fetch their Water, the better; if they are bleak, 'tis easy to prevent it by Nurseries, at a Distance: And I believe we need not have much Fear of excessive Heats in *England*. We may, in short, more readily bring a *Plain*, well drained, than all other Situations, to all the Purity imaginable, and most easily amend its Faults.

Woody Places, of all others, are the most unwholsom Air to breathe in; 'tis an artificial Air, that corrupts our Juices, and stops our Perspiration, as has been observ'd: It is not only moist, but it is also stock'd with other *Effluvia* from the Trees, so that it is watry, and either saline or sulphureous, according to the specifick Nature of the Trees growing upon the Soil. If a Plant can suck up 27 Ounces of Water and more, and at last weighs but two or three Drams, the Air must partake of this Moisture, which is constantly flying off, and be impregnated with the Steams of it; and if we consider the yearly Growth of Trees, in Proportion to the Rain they are water'd with, we shall readily conceive, that the Air must partake

of the Vapours flying up into it ; wherefore it behoves Gentlemen, delighting in Arbors and Nurseries, to consider at what Distance they ought to be placed ; and also what sort of Trees they plant : I believe Firr, Pine, and all the warmer Kind, most convenient for our Country, because they communicate Particles fit to correct the Coldness of our Air in Winter ; however, neither these nor others ought to be plac'd too near their House, because the Standard of Air is to be pure, dry and thorough-blown, to be weighty and elastick ; and all Deviations from thence must be amended, as much as possible, by some Contrivance or other. We are to suppose, that Seats are built with a Design to preserve Health ; but if the Inhabitants of that Place, contract, by their Irregularities, Diseases, which that Air is not adapted to correct, they must either make it up with a due Management of the other Non-naturals, or remove their Quarters, if a different Air is found to be necessary for their Relief.

Rocky and open Places, are apt to be too cold, or too hot : In Winter they are starving, and in Summer scorching hot ; and all Extremes are to be avoided ; they reflect the Sun-beams in Summer with too much Violence ; and the Coldness of the Stones in Winter conquer the Sun-beams, and the Air around feels cold. We have

have already seen what Mischief these Excesses of Cold and Heat do to human Bodies ; wherefore rocky Places are improper for Seats.

Rivers and Lakes are moist ; however Lakes are worse than Rivers, because, besides their Moisture, they convey a putrified Air to us. This Situation threatens nothing but Diseases, as has been already observ'd.

THE *Sea Air* abounds in Salts and Moisture, and it smells sulphureous ; so that here we must expect to suck in an impure Air : *England* is not the wholesomer for being surrounded by the Sea ; from hence it is, we are subject to that Variety of Weathers our Country is noted for : Our mid-land Counties are the most healthful ; and I have observ'd, that where the easterly or westerly Winds give Rains in abundance to the Coasts, yet the middle Way between Sea and Sea, has then been calm and dry : The Clouds brought from either Sea, drop before they come midway ; but then the mid-land Counties can't grow all Grains so well, or, however, their Grain is dwarf'd for want of sufficient Moisture. Persons subject to the cold Scurvy or Eruptions, must forbear living by the Sea-side, because, the Salts being dissolv'd in Water, the Sun makes the Steams mount up in the Air, and blend with our Spittle, and cluster in our Blood : But yet they whose Juices are too watrish

watrish and too phlegmatick, should live at the Sea-Coast. Sheep dying of the Rot, in marshy Parts of a County, are sent down to the Coast to feed upon that Grass, which tastes brackish, and they are very often return'd in Health: Their Blood is watry, and at last turns viscous, and stops in their Livers, and gives them Jaundices, perceiv'd by the Whites of their Eyes: Upon Dissection, their Livers are found to be a Quagmire of Phlegm, and are every where obstructed.

THE *Air of Baths*, is a warm and moist Air; the Sulphurs exhaling along with their Humidity, hinder the bad Effects in some Measure of this Moisture: However, if Baths are plac'd ill, that Air can't fail of being prejudicial, being neither fit to breathe in, nor perspire, nor to create an Appetite: Let us, for Example, suppose *Baths were plac'd in a Vale surrounded every where with Hills, fraught with Sulphur and Water*, what a monstrous Place must such a Seat be? Here must be the same individual Air, that perhaps took up its Abode there at the Deluge; here are Steams in abundance daily exhaling and mixing with their Atmosphere, and which in Length of Time must be merely Water, and consequently moist, because as there is no Vent for their Air, the Sulphurs will take such Place as is allotted for them by their Gravity; that is,
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the heavier Sulphurs will sink to the Ground, and the lighter will mount above the Moisture : So that by this Situation they are choak'd up with *Damps*, or a *moist and putrid Air* : The *Moisture* is demonstrable, by reason of the Steams exhaling every Minute, which are a proper Nest for Putrefaction ; and the *Putrefaction* is also a necessary Consequence of its being a *Reservoir* or Pit, defended from the Winds, by its Hills. If there were such a Place, as this describ'd, and Necessity drove any thither to seek their Health from those salutary Waters, they ought to lodge on the Downs at some Distance from the Baths, or take up their Lodgings, if no better could be, in the highest Rooms of their Houses, where Salt wou'd not run, or Salt-petre cou'd not be made ; for the lower Parts must be necessarily *moist and putrid* ; so that when such Waters have had their desir'd Effects, which they generally have in six or eight Weeks, 'tis high Time for those who have liv'd in an Atmosphere of Vapours and Putrefaction, to shift their Quarters into a dry and thorough-blown Air. If there be such a Place in the Globe, their Physicians would never venture to commend the Situation, but probably would slubber over this Imperfection, and advise you to take the Air on the *Downs*.



C H A P. II.

Of DIET.

AS this Article is the most considerable of all the *Non-naturals* in producing Diseases, so it ought to be regarded by the Valetudinary and the Sick in a most particular Manner. It is impossible to give absolute Directions here, no more than in Health ; for, to say the Truth, all Meats and Drinks are but relatively good or bad, that is, all we take is good or bad, with respect to Circumstances, which are best determin'd by giving an Eye to the Temperaments and the Causes of the Diseases which afflict our Patients : These are the Views we are to have to prevent Sicknes or Death.

WHEREVER then Directions are given for the Management of our Patients in an absolute Manner, affirming any particular Meats or Drinks useful or prejudicial, 'tis erring against common Sense, if they add not the Nature of the Diet and the Disease too. And as Diseases vary infinitely, nay as the same Disease, having every Symptom alike, varies very often in its Cause ; so it is impossible for a Physician to determine on the Diet proper in any Disease, or any valetudinary

dinary State, till he considers the various Causes of it, and knows from which of those Causes it arises : And thus it is not in our Power to assure Persons, for Example, in a Fever, what Diet they ought to insist upon, till we know what Species of Fever it is they labour under ; nor affirm that valetudinary Persons ought to observe any Sort of Victuals invariably, since Tenderness changes as the Constitution does ; but that is never alike in all.

It is therefore a standing Rule, that our Meats and Drinks ought to consist, as nearly as can be, of Particles contrary to the Cause of the *Disease* reigning, or contrary to the *Temperament*, if they be valetudinary and sickly. If we are appriz'd indeed what Health is, and that a Person is of a vigorous Habit, the Diet ought to be such as will continue this State.

If you please then, we will take a short View of a healthy State, that we may the better understand a sickly one : The first is preserv'd and held on by a Diet supplying Nourishment, which in all Particulars keeps up the Proportion of Principles in our Juices, as we find them in Health. The Blood is a Medley of Salt and Sour, and a thousand other Materials, as *Hippocrates* observes : But to come nearer to the Point, we know by *Analysis* that there is a certain Proportion of Principles in a sound Blood,
which

which ought to be known to a great Exactness by Physicians; and if we wou'd preserve our Blood in a due Tenor, we must blend our Diet, as near as may be, in this Proportion: It is very evident, that our Victuals consist of different Parts analogous to those in our Blood. As to *Animals*, there is no Question, since they digest in the same or like manner as we do. As to *Vegetables*, a Division of them, into their minutest Parts, whether by Fire or without it, shews they do also consist of like Parts. And *Minerals* and *Metals* do also contain the same sorts of Parts, but they are unfit for Diet, because their Parts are too much concentred; however they are well fitted for Medicine, for this very Reason, and are given in small Doses, with Design to add such Parts as are wanted, or to correct the Juices too much depraved, which they effect more suddenly than Victuals can do, for they contain Principles nearly homogeneous in small Bulks; so that we may more properly say, they are intended rather to correct the vitious Qualities of the Blood, than to fill our Vessels, which is also one main Design in Nourishment; whereas Diet of Vegetables and Animals does both, fills and corrects the Depravity, but more eminently the former.

THESE being premis'd, Health consists in a certain Degree of Elasticity in our Fibres,

a determin'd Pitch of Mixture in our Fluids, and a Circulation without Impediment thro' the greater and larger Channels, forwards and backwards : If our Fibres or hollow Pipes containing the vital Liquor, and all its Separations, bend outwards, and return again with Ease, they syringe the Blood and all its Juices outwards, and suffer no Parts to rest or run off, but such as are destin'd so to do : If the Mixture be exactly proportion'd, it acquires a just Degree of Thinness, so that there is no unequal Texture in it, that is, so that one Parcel of it is no where thicker than another ; but being every where equally comminuted and thin, the Juices run off into their proper Strainers, without being retain'd, and therefore without depraving the whole Mass ; and as a wholesome Consequence of this just Tenuity, the Spirits are separated into the Brain, and run with a due Force thro' the Nerves every where, whose Presence is of such universal Use, as that without them, the Animal wou'd dwindle into a Carcase.

As I have chanc'd to name the *animal Spirits*, give me Leave to observe to you the Amazement I am under, to find some Persons, of no small Rank in their Profession, denying their Existence, upon so slender a Foundation as they do. * They for-

* Dr. Cheyne on the Gout. p. 91.

sooth tell us, that those stupendous Motions we daily observe in Creatures, are all done by some *extrinsick Agent* ; for, add they, as the Nerves cou'd never be discover'd to have any Cavity in them, (which is a Mistake) what can be separated thro' them ? If I take the Matter right, this Argument proves too much ; for what Diligence have not Anatomists us'd hitherto, to discover the Mouths of the Lacteals, without compassing their Purpose ? Dr. Keil, p. 54. *Sect. 8. of his Anatomy, the 7th Edition*, has these Words, " The Mouths of these Lacteals, which are open into the Cavity of the Guts, from whence they receive their Chyle, are so small, as not to be seen by the best Microscope. " But the whole Band of Physicians is so far from denying, that they acknowledge the Fact, namely, that a gross Liquor is strained thro' invisible Holes. Can it be an Inconsistence then to assert, that an æthereal Substance may enter into such imperceptible Holes ? There are other Proofs sufficient to confirm the Existence of animal Spirits, which I have not Leisure to produce at present : However, if the Invisibilty of hollow Tubes, for Spirits to pass thro', were judged a sufficient Proof to destroy the commonly accepted Opinion of their Being ; methinks 'tis evidently overthrown by the Case nam'd, which the Objectors themselves allow. And if upon
Liga-

Ligature they are not observ'd to swell, we ought to consider the Nerves, being very porous, suffer the *Æther*, which is the Spirits we speak of, readily to escape; and that they contain a Liquor, plainly appears by Coction.

BUT as the Circumstances, above nam'd to be a compleat Idea of Health, must also include some *Negatives*, as well as many Sub-divisions, it must be observ'd, that descending to Particulars in Distempers will clear up this Notion, and make you comprehend my Meaning very readily: Wherefore I shall remark to you, how our Bodies are affected in Sickness, and how many Ways we can be sick.

ALL Diseases then are Consequences of the Blood, Solids, or extraneous Bodies offending in Quantity, Quality, or Motion; their Excesses and Deficiencies, their Species and Properties; their Quickness and Slowness, or their Sensibility and Insensibility are the Subjects of our Enquiries; when these come to be combin'd, they acquire certain Denominations, which we know by their pathognomonic Signs; so when Pain is join'd to a Fever, a Cough, and a Difficulty of Breathing, we call this a *Pleurisy*: But the Causes of this Collection of Symptoms must be found out by a particular Search made into the Faults in the above-said Quantity, Quality and Motion: For Example. We know by the Fulness and

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Swiftness of the Pulse, that the Blood is rarefied, and fills each Section of the Vessels more than in Health: We know also, that it moves on too rapidly; we see by the Buff upon it, that it is viscid and glewy, and therefore apt to stick to the Ends of the smaller Vessels, and so produces Pains.

DIET answers the End of Physick in all its Extent, save that of the Time; and in this Point we are often at a loss in depending on Diet only: If Diseases are much rooted, and run their Seasons swiftly over, as many of them do, we must have recourse to Drugs, which contain Particles eminently resisting the reigning Taint of the Blood, to such Materials as in small Bulks may have a great deal of useful Matter: Otherwise, I say, we can answer all the Ends of Physick by our Meats and Drinks. If we have play'd the Gormand in some, or many of our preceding Meals, we must fast from Breakfast and Supper till we have brought ourselves to be tolerably easy; if our Stomachs are loaden with a Quantity of Humours, we have a Diet of Barley and Plumbs to evacuate it gradually; if we have brought on Diseases by fasting too long, or violent Exercises, or Evacuations have exhausted us, we must encrease our Meals to such a certain Degree as will repair the Loss. And not only are we able to supply Nourishment, but we have even a Diet which will
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curb any Sort of Evacuations; let the Blood be vitiated any how, we are furnish'd with Materials in Diet, which will surely remedy the Fault: And, lastly, if the Blood's Motion be too much accelerated or retard-ed, we can draw, from the Kitchen, Meats and Drinks suitable for the Condition the Juices are then under. As I am just about to proceed upon this Head, I shan't here anticipate my Design, only it may fairly be inferr'd, that it is necessary a Physician should be well inform'd of the Nature of his Materials; and he who is not will make an awkward Figure in his Profession, since Success is always in Proportion to our Knowledge and Diligence: Knowledge without Diligence, is as a Treasure lock'd up and never us'd; and Diligence without Knowledge, is like riding Post out of the Road: But when *both* are join'd, 'tis like a Rock, which the strongest Storms can never overthrow. And pity 'tis that such Persons should often be suppress'd by Cabals of designing Men.

AND as this Assertion on the Usefulness of Diet, is a Truth of Experience, it will now evidently appear in most Diseases we shall have occasion to descant upon; I shall pitch upon some of the main Distempers, and which principally demand the Physicians Care. The first we meet with treating on the Diet requir'd in *acute* Diseases, is

Hippocrates ; it is now out of Date, and cannot be understood in many Places at this Day : What a wide Difference has Time made in our Victuals and Drinks ? The present Age affords us Varieties, which the Ancients were Strangers to ; we feast luxuriously, and they fed upon simple Diet : However, 'tis certain, the very individual Diseases they labour'd under then, we also suffer now ; with this Difference, that more are added to the Catalogue since those Days, owing principally to the vast Varieties of Particles our Diet abounds in.

HOWEVER acute Disorders may agree in some Particulars, there is a vast Difference among them ; many of their Circumstances vary ; so that the Diet must also be chang'd in some Particulars, some growing evidently worse by a Diet of Sours, whereas others necessarily require them ; which we shall have Occasion to mention anon, in their proper Place.

As *Fevers* are the Dart that strikes us most frequently, the greatest Regard must be had to our Diet in them : To determine which, we must take a View of the different *Species* of them. In some, the Pulse is thick and strong, and they melt with Heat in a violent manner ; such labour under the following Symptoms : The *Fulness of their Pulse* denotes the Rarefaction of the Blood ; the *Swiftness* of it denotes the Quickness
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of the Motion; the *Pain* of the Head shews the stretching of the Vessels to overlarge Dimensions from the Fulness, which Pains are the most violent of any, by Reason of the Pressure of the Membranes; the *Difficulty of Breathing*, springs from too plentiful an Influx of Blood into the Vessels of the Lungs, so that they become thereby rigid and unfit for their Expansion; the *Urine* in such is generally red and high-colour'd from the Nature of the Salts reigning in the Blood; the *Thirst* depends on the Exhalation of the thinner Parts, by Reason of the Excess of Heat within us; the *Watchings*, from the quick Circulation of Spirits thro' the Nerves; *Ravings*, from the Accumulation of Juices, their Stagnation, and Inflammation of the Brain; the *Bleeding*, from the Rarefaction of the Blood to such a Pitch, that the Vessels can't resist the Load, but crack and spill their Contents; *Pain* any where, from the Blood moving on too briskly, and distending the Capillaries too much: In this Case, the Diet must consist of such Parts as will dilute, divide, and keep the fermenting Particles at a sufficient Distance from each other; as also of unactive Parts, or such as, if left to themselves, wou'd hardly putrify, or of such as will sheath the sharp Salts of the Blood, so as they can't prick, tear, or gall the Parts; and lastly, of such as are opposite

in their Properties to the Salts in the Blood: Wherefore the Diet here should consist of Barley or Oatmeal Gruel, Panado, Jellies, with the Juice of Lemons, roasted Apples, light Puddings, poach'd Eggs without Salt or Pepper, Tarts of Rasberries, Apples, Plumbs, Currants or Almonds, of Lemon or Orange Cream, of Jellies of Apricocks, of Barberries, of Damsons, Goosberries and Pippins; of Chocolate Tarts, light Custards, of Flummery, Furmety, or of Rice Cream; their Liquors should be Water, with a sixth Part of Wine, the Decoction of Hart's-horn, Barley-water, with the Juice of Lemon squeez'd into it, Lemonade, Emulsions, Tincture of Roses, *Fuller's Decoction Coccineum*, his Decoction of Tamarinds, of Sorrel, or his *Portugueze Sherbet*, Ptisans, and such like: However, it must be observed, that we must not blend their Liquors in such Manner, as to make their Stomachs sick; and therefore if they are delighted with the four Drinks, they must avoid Emulsions or milky Drinks, 'till the Sour has pass'd the Stomach; so that it is not proper to give them milky and four Liquors in one Day, for Drink, (not but that both are proper, but they don't agree together) because the four precipitates the Curd from the milky Liquor, and it lies heavy upon the Stomach; and moreover, it must be observ'd, that great Quantities of Sours
must

must also be avoided, lest instead of arresting the Blood's too rapid Motion, it should be coagulated and over-chill'd, and then the regular Course of the *Crisis* would be retarded or quite abolish'd. At how little Value soever Dr. *Cheyne* sets the Juices of Lemons and Oranges, how many dangerous Diseases soever they are the Occasion of, how poisonous soever they be, nay tho' he will allow neither of them to be salutary, yet a few Pages after he * falls in love with them as *the best Promoters of Digestion* in some Circumstances; *sibi constet* is a golden Rule: So much for the Quality of the Diet in strong and burning Fevers. It must be observ'd also, that we must forbear giving too large a Quantity of any Victuals or Drink in these Fevers; we ought rather to offend in giving too little: For as the Vessels are so stretch'd already, as to be upon the Point of bursting with the Quantity, Abstinence is rather advisable, or, however, we should fill sparingly: And, lastly, the proper Season of Feeding in Fevers is out of the Fit, because in a Paroxysm, the Blood is much rarefied, and the Vessels at that Time are fuller, and by consequence they bear Feeding inconveniently.

In others the *Pulse* is weak, tho' *quick*, and the *Heat* is not much exalted above

* Dr. *Cheyne* on the Gout, p. 62.

the natural Temper, nay in some it is less than it is in Health: The Symptoms, tho' numerically the same, yet differ in their Cause widely; namely, the *Ravings* proceed from the Want, and therefore the irregular Excursions, of the animal Spirits, which Penury arises from the Viscidity of the Juices; for 'tis observ'd, wherever the Blood is thick and gross, few Spirits are separated, and every Motion betrays their Scantiness: The Nerves also, in this Case, are relax'd, and become incapable of receiving their due Impressions: The *Thirst* depends upon a Thickness of the Blood, for Secretions are analogous, or of a like Nature with the Blood from whence they part, and the Tongue is loaded with a white or brown Matter, which glews it and the Jaws up, and makes us desire Diluters to wash it off: *Pains of the Head*, or elsewhere, in which the Patients complain of Heaviness, arise from a gross and thick Blood sticking, for want of free Passage, in the smaller Vessels, and distending the Membranes, and giving us uneasy Sensations: The *Watchings*, are from Distention in the Brain, rais'd from the grosser Particles lodging and stagnating; the Vessels being thus fill'd, an Uneasiness is rais'd, and Watchings ensue: The *Urine* is pale, because the watry Parts only flow forth, the other not being well digested; no Tincture can be given, for the Colour of
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our Water depends on the Salts and Sulphurs of our Blood, well extricated and freed from the grosser and unactive Parts. The *Bleedings* are produc'd in the following Manner; wherever the smaller Vessels are bung'd up with gross and cohesive Juices, the Blood stops at those Points, and the Vessels behind swell, 'till they lessen of their Thickness, and so crack and spill their Contents: *Pimples* and *Spots* are more frequent here than in burning Fevers, because they depend upon Humours more or less viscid, sticking to the Capillaries, and so puffing up the Parts obstructed, or causing Spots without any Unevenness in the Skin. *Startings* and *Tremblings* also are very common in these Fevers, and pretty early; for a gentle Heat or Struggle in the Juices evaporates the Spirits, and makes 'em run irregular Courses into their conveying Channels, the Nerves; so that when they run into any one more rapidly than another, and fill that Nerve, the Nerve being in its own Manner blown up or duly stretch'd, is drawn back towards its Original, and shortens; the Muscle then, to which this Nerve runs, will, for the Time being, be mov'd, that is, it will start; and this is the Reason of those dancing Motions we observe most in slow Fevers in the Wrists, when the Sick draw towards Danger. Nor is it uncommon to observe *Inflammations* of a dangerous Sort in

in these Fevers, for the same Viscid, clinging to the Walls of the smaller Arteries, arrests the Blood's Motion onward, and the Pressure around encreasing hourly, the Part swells, grows red and painful, and, if not timely regarded, will impostumate. These Inflammations are reckon'd the more dangerous here, because the Want of Spirits, and the irregular Bent of the Blood, clash in the Views: For who is he would bleed when the Spirits are few? Or, who is he that would not avert the Stream from the Part griev'd, by Bleeding? And, lastly, who is he, who rightly considers these Difficulties, that does not tremble at the Danger? The *cold Sweats* are caus'd as the Paleness of the Urine is, namely, by an Owzing of the thinner Parts from the thicker, as appears by their Separation in the Dish when let out; for the Blood's Texture is very unequal, and moreover from the Flaggingness of the Fibres, suffering the thin Parts to glide readily through their Out-lets. The Faintness and frequent Swoonings observ'd, are plain Arguments of a Stop of Circulation in the Heart, from a Want of Spirits in those Nerves; which having no Source or Supply from the Brain, must fail of their Function; or Contraction of the Heart. The *Coldness of the Back* in this Species arises from a Want of Motion in the Fluids, which Cessation is produc'd from a very great

great Obstruction in the Capillaries thereabouts, and a Rest in the Fluids raises a Sensation of Coldness. But if we take a View of this Symptom in the ardent Kind, we shall soon perceive it to spring from a different Reason, to wit, from the Rarefaction of the Fluids all over us, but a Rest here; this *interpolated Motion* is not uncommon in human Bodies. Where some Parts are too much press'd upon by the Juices being too much swell'd up, and filling the Vessels too full, some small ones are not able to resist this Pressure, and then the Juices are at rest there; now Rest gives an Idea of Coldness. A like Instance to this appears in Phrenzy's; where the Blood is hurried about too furiously every where, till at last some smaller Vessels can't readily pass the Quantity pour'd into them, but a Stop is put to the Hurry, and a Stagnation, and next an Inflammation ensue. I have been more particular in the Explinations of the Symptoms of Fevers, because we may the better see what Diet or Drinks are proper in this Kind. Here it is the more generous Meats and Liquors take place; and therefore Broths of Mutton, Veal, Chickens, Hens or Capons; Wine less diluted, and even a Glass of Wine without Mixture, Tea, Sage-Tea, Hartshorn Jelly, with a little Wine in it; Panado's and Gruels with Wine in them: In all Fevers

Fevers the Diet should be thin, but in this *Species* it ought also to be nourishing and comfortable; *thin*, because the Blood wants Dilution, the Viscid is attenuated and divided by Liquors which are watry, and taken down hot; and *cordial*, because in this Kind the Spirits must be supply'd. It is worth Observation, that no Physicians have hitherto ventur'd upon giving any mineral Waters of Steel or Sulphur in any of these *Fevers*; tho' the former have the Power of *Cooling*, if they be what we call *Acidule*, such as are our *Tunbridge*, *Islington*, and the *German Spaw-Waters*, and the latter, such as *Buxton*, *Bath*, or *Aix-la-Chapelle* Waters, are of a warming and diluting Nature: Whether they be afraid of mineral Particles in such Cases I shall not take upon me at present to determine; but it is more than probable, feverish Effervescences and Struggles do arise from an Introduction of mineral Effluvia, or even Substances, into our Mass; for the Struggles rais'd between such out of it, are the most lasting and frightful. In all Fevers which terminate in a *Crisis*, we avoid Flesh-meats, unless they be very tender and given in small Quantities, because the Ferment of the Stomach is now deprav'd and very scanty, and because the Fibres of it are too tense, so that the Victuals are either thrown up again, or downwards, or so vibrated as to render

render the Disease'd very thirsty. And thus I have shew'd, upon a reasonable Foundation, the Management of People in Fevers, in their Meats and Drinks.

IN *Hectick Fevers* of every Denomination, whether *primary* or *symptomatical*, there is a Sharpness or Acrimony in the Blood, disposing the Humours to melt, and run off thro' every Outlet, namely the Pores, the Guts, and the Kidneys ; they therefore waste insensibly, and the Repairs bearing no Proportion to their Wasting, the Spirits and Blood are drain'd, and when they are worn to the Thinness of Paper, the Lamp will go out. Here we meet with the following Observables ; they have a sharp and biting Heat upon them ; after Meals they grow hotter, more especially in the Palms and Soles ; they have a continual Thirst ; their Appetite is destroy'd, and they waste daily ; the Pulse is quick here, as in all Fevers, but grows quicker after Meals ; their Urine is generally of a Flame-Colour, and has a Crust at Top, and their Bellies are burning hot. This Acrimony is very considerable, if the Blood is only tainted with it ; but when the Matter is thrown into the Mass daily from Ulcers of the Lungs, or other Bowels, 'tis an irreparable Case. I shall here consider the Reason of these Symptoms, that when their Manner of being produc'd, is fairly stated, it may be easy to know the Diet's Nature
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and Use. The *Quickness of the Pulse* depends upon the sharp Particles in the Blood twitching the Heart, and by giving it such frequent Twinges, it contracts itself more frequently; the Motion of the Spirits becomes brisker into the Cardiac Branches of the Nerves; and this Motion encreases upon Feeding, because new Nourishments give new Struggles. Their *Appetite* is destroy'd, because there is a *Mean* in Nature requisite to raise an Appetite; and this fails, as that is lost: Not only the Juices in the Stomach, but the Fibres of it, also contribute to raise this Desire; for if the Juices be viscid, there is no Twinging, nor consequently any Idea of Hunger rows'd: If they are too eager, they produce Pains there instead of Hunger, or they produce uneasy Heats and Burnings, so that nothing is desired or coveted, but what will allay this Uneasiness; and therefore it is, they covet Liquor to quench this Fire in Lieu of Viſtuals, which is the Case we are now considering: The Urine has a Cruſt at Top, as all Liquors loaden with Salts have; and it happens here as it does in Cryſtallizing Salts, the Liquor being evaporated till a Pellicle appears at Top, and ſet to cool, cryſtallizes: And indeed I have ſeen the very ſame happen to a hypochondriacal Perſon, his Urine being ſet by, to let me ſee it: I was not ſurpriz'd to ſee a Cruſt at Top; but thro' the whole
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Liquor there appear'd such shining, hard and pointed Particles, that upon Filtration, I met with a very large Quantity of Salts, which melted with the Heat of my Hand, and tasted very sharp and saline. It can be no Surprize then, if in such a State of Blood, where the Acrimony is so great, as to corrode the Fibres themselves, that the Filaments of the Blood should also be wasted and corrupted: How can the tender escape, when the stronger are demolish'd? How can Sulphurs be safe from Corrosion, when Bones are sometimes decay'd? We have here a short View of what happens in *hectic Fevers*, and also of the *Modus*; Let us from thence gather what Diet is convenient for the Hectical. It is easy to see, they ought to avoid strong Liquors: Since even Wine, unless very well diluted with Water, is prejudicial, how then can Brandy-Cordials agree? Cordials, in this State, are only us'd in Faintings, to give the Spirits a Hoist; however, we must not be too free, where the State so eminently contradicts their Use; but the Symptom being reliev'd, we must cease from using them, and give them such Victuals and Drinks as will sheath these acrimonious Particles in the Blood and Juices; wherefore such Victuals are adviseable, as are said to be easy of Digestion, and smooth; the Feet of Animals, as Calves, Sheep and Lambs; Rice, Oatmeal, Barley,

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in Puddings or Gruel, Sago, Eggs, Milk-meats, Snails, Cray-fish, Crabs, Jellies, Panadoes, Milk, and fresh Fish, which are smooth, such are Whittings, Soals, Flounders, Plaice, and such like ; and for Drink, Asses Milk, *German* Spaw-water, or a Decoction of China and Harts-horn, are commended ; the Mucilage of the Harts-horn is soft, and obtunds the Acrimony of the Juices, and abates the Heat : I don't know how it is, that Dr. *Cheyne* here varies so much from himself ; he looks upon * glutinous Victuals hard of Digestion, while the † Mucilaginous are reputed easy by him ; but these are only Gradations of the same thing, and Dilution makes a glutinous Diet mucilaginous ; and therefore, according to him, easy of Digestion ; but he who affirms Milk and Eggs to be easy of Digestion § in one Page, and, a few Pages after, ‡ to lie heavy on the Stomach, and beget Wind ; that mucilaginous Food is good to plump us up, that it is soft, light, cool, tender, and already Chyle || ; but that ¶ Fish is mucilaginous, and yet that it is so hard of Digestion, that it is equally bad as Pork, seems to argue against himself : If Reason won't convince, let Experience be consulted : If *Fish* affords us Ising-glass ; Rice, Wheat, and all the mucilaginous Diet afford us Glue ; and indeed,

* 25. † 114. § 114. ‡ 120. || 114. ¶ 40.

if we deprive our nicest and most tender Viſtuals of their watry Parts by Evaporation, what remains but Glue : Consider the fashionable and portable Soop, now in Use with the Quality; their Cooks make *Olio's*, they strain the Broth, then gently evaporate to a greater Height than for Jelly; they let it cool, and scum off the Fat : This Glue they carry with them, and when they want a Dish of Soop, they call for boiling Water, and dissolve as much of this Glue as will make it strong enough, and use it for an *extempore Soop* : Water then is the proper Dissolvent of such a Diet, and makes the glutinous become mucilaginous, and therefore easy of Digestion; and methinks, if a Division into minute Particles be the Sum of Digestion, a Dish of Tea or Coffee after Fish were better than Brandy, since Mucilages are harden'd by spirituous Liquors. In short, every Diet is good, which corrects the Faults in the Juices, provided the Patient have no Antipathy for the Diet offer'd : There are Circumstances to be observ'd in every Kind of Diet, which if we slight, make the best of Foods hurtful : But there is a Truth yet remaining, which is pass'd by; namely, wou'd it be reasonable the Diet of heſtical People should consist of Plants or Viſtuals very Aromatick or Poignant? Wou'd we advise them to eat pepper'd or high sauc'd Meats, or drink spirituous Li-

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quors? This wou'd be the most ignorant and unskilful Practice that ever was follow'd, either by *Systematicks* or *Aphoristicks*; and by a Parity of Reason as well as of Experience, we are taught to refrain from glutinous or mucilaginous Diet in phlegmatic Cases; and if we consider, that studious and sedentary Peoples Juices are apt to *turn viscid* *, methinks a viscid Diet is, of all, the most hurtful; and pray what is *Sago, Rice, or Puddings, but such a Regimen* †? Is a Blood, vitiated by being too gross already, to be stuff'd with Victuals and Drink, that will render it more viscid? I say then, (and the Physicians of every Age back my Sentiments) that wherever the Blood's Motion or its Qualities are faulty, in Excess or Deficiency, or if its Quantity abounds too much, we must put the Valetudinary or Patient under a Regimen of Meats and Drinks, directly opposite to their present Case; but if the secreted Juices fail of their Quantity, we must give such Specifics as will breed them; and altho' this Supply is of an analogous Nature with the thing wanted, and in that Sense may be said to be similar, in its Condition, to the Juice; yet as adding is contrary to subtracting, in this Sense the Deficiency is cur'd by a proper Supply. But to be more particular, let us suppose the

* Cheyne, p. 34. † Page 114.

Blood-Vessels are fill'd too much, we must fast or subtract from our Diet every Day insensibly, till we have suffer'd more to run off by Stool, the Pores, or Urine, than we have added: Does the Blood move too sluggishly forward, do we not advise the Patient to use such Meats and Drinks as will hasten its Motion? Does it move too fast, don't they advise with us how to arrest this Hurry; and don't we order them to forbear all spirituous Liquors, and to betake themselves to *Element*? Is it sour or salt, do we not presently cause 'em to forbear all salt Meats; and don't we bid 'em dilute well, and use Milk-meats, and the like? Does it ever happen that the oily Parts of the Blood are not well blended with the Serum? Are we not in that Case to administer in Diet and Drugs, such Materials, as, being hurried round in the Vessels, will exactly cause them to mix? I mention this Case, because I have often observ'd it in the Cachectical, and in Persons subject to Jaundices, and in so eminent a Manner, that the Bile swimming at Top, will flame as a Candle if scumm'd off; does not this State argue Want of fixt or volatile Salts in the Blood? I think I have said enough to convince any reasonable Person, that our Diet must be contrary to the faulty Condition the Blood is under; so that it is not only the *Easiness of Digestion* we are to consult in Valetudinarians, but the State of

their Fluids; for some Viſuals may be very eaſy to break into minute Parts, but very improper for the Perſon's Condition who has ſwallow'd them: I ſay, if this were the whole Streſs of the Matter, I don't ſee why *Hemlock*, *Hounds-tongue*, or *Thorn-apple* might not make as good a Sallad as *Sileſia Lettice*, for Element will diſſolve them all alike; but then what Conſequences do they not draw after them, in a conſtant and regular Manner? We are therefore indiſpenſably oblig'd to conſult the Depravity of the Blood and Fibrès, and we are to adminiſter Meats, Drinks and Drugs, diametrically oppoſite to that Corruption. Let *Hippocrates* confirm all I have ſaid on this Head: He * tells us to uſe a *Regimen of Diet, and Medicines alſo, contrary to every Age, every Season of the Year, every Nature and every Diſeaſe*; and elſewhere he tells us, that † *Contraries are the Remedies of Contraries*; which *Axiom* ſeems to be quite neglected by Dr. *Cheyne*; as appears in this Paragraph, and will be made manifeſt in the Sequel.

IN *Pleurifies, Peripneumonies, and Inflammations of the Viſcera*, an uniform Diet is requir'd. We will take a ſhort View of the Symptoms of ſome of the moſt conſiderable internal Inflammations; and from them

* De Natura Hominis. † De Flatibus.

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plainly shew, which Sort of *Regimen* is convenient for them. In a *Pleurisy*, they have first a Pain in the Side, then a strong Fever, the Pulse is strong and hard, they breathe short, and have a troublesome Cough; these are the distinguishing Signs of this Disease, others attending occasionally need not be strictly regarded. This Pain depends either upon the Grossness of the Blood, which in this Disease is visible upon the Cake, of a yellowish Hue, and so tough, that a Knife enters it not without a strong Resistance; which is frequently occasion'd by Overheats, and imprudently drinking cold Water, or ic'd Wine upon them; or upon the Stiffness of the Parts themselves caus'd by catching Cold, or exposing ourselves to the *chill Air*; for, as our Fibres and Tubes are ductile and yielding, the Air has a great Force upon them, more especially at their Extremities, where it renders them sometimes too flabby, and at other Times too rigid and stiff; but in either Case, the Spring of these Fibres, by which the Blood is syring'd forward, is abolish'd; therefore the Blood will stand still in those Capillaries, and a Stop will be put to the succeeding Mass; for which Reason, the circumjacent Fibres, on the Side from the Heart, will be inflated, that is, inflamed. As soon as the Inflammation is fix'd, the Fever begins, for then the Hurry commences, and the Blood

is hasten'd onwards by the strong Agitation and Compression of the Fibres, occasion'd from the Pain, and is thereby divided into minute Particles, and rarefied: When the Fluids are brought into this Condition, it is easy to conceive how the Pulse is enlarg'd and harden'd, for the Blood taking up much more Space than it did in a natural Circulation, it thrusts the Arteries more outwards, by filling them more, and the fuller they are, the harder they grow; and from this same Fulness it is, they breathe short, in Proportion to the Quantity the Vessels contain; for the Vesicles of the Lungs grow rigid when the Vessels are too full, and therefore can't reciprocate the Air.

IN an *Inflammation of the Stomach*, the following Signs are observ'd; a Pain, a Fever, a Swelling, and a Vomiting: This Pain begins in the same Manner as was said in the Pleurisy, and so does the Fever and Swelling; and for the Vomiting, we may readily conceive how every thing they take, is vomited back; for how is it possible so sensible a Part as the Stomach is, being very membranous and nervous, can bear the Touch of Victuals or their Pressure without being put into Tremblings and Shocks, that is, into Vomitings; do we not experience this daily in outward Inflammations, how uneasy are the Patients, and how much afraid are they upon the least touching of the fore Part?

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IN an *Inflammation of the Liver*, the Signs are, Pain on the Right Side, a Fever, a Swelling there, a Jaundice, a Difficulty of lying on the Right, and a Vomiting, with a dry Cough, and Difficulty of Breathing. The Pain, Fever, and Swelling, are accounted for as above; the Jaundice depends upon a Stop put to the Secretion, because all the Ducts are bung'd up, and the bilious Particles of the Blood must remain in it; and it is some Comfort that the *Porta* is not quite clos'd, for then the Belly must needs swell prodigiously; as the Right Side is the Part affected, Pressure cannot be agreeable to it: And what is Lying on the Right, but pressing the Liver with its own and the whole Bowels Weight? The Vomiting is from the great Pressure of the Stomach, by the Liver, and Diaphragm, and also from Steams of the Liver entring and twinging it. The Breath shortens, and the Lungs are affected, if there be no Room, or less than usual, in the Belly; for then the Diaphragm is press'd upwards, and can't be stretch'd downwards, and consequently there must be less Space in the Breast for so large a Draught of Air, than there shou'd be.

IN an *Inflammation of the Kidneys*, besides the Pain and Fever, there is a Vomiting, a Strangury, and a Numbness on the Side where the Inflammation is; the Vomiting is by the Communion of Nerves; for

as those of the Stomach and Kidneys come from their Original, wrapt up in a common Case, so their Affections are in common. The *Strangury* is produc'd from the Heat and Acrimony in the Blood, and consequently in the Urine; the Heat dries up the *Mucus* that lines the Passages, and the Acrimony twinges the bar'd Membranes; and as for the *Numbness*, it depends on the Bulk of the Kidney being increas'd: That it is so, the Augmentation of Pain in the Part, upon Coughing and Sneezing, makes it evident.

IN an *Inflammation of the Bladder*, these Signs concur; a Pain above the *Os Pubis*, a Fever, a *Strangury*, a *Tenesmus*, and a Redness in the *Perinaeum*, as well as a Swelling: We have already explain'd the Pain, Fever, and *Strangury*; the *Tenesmus* arises from the Communion of the Sphincters, so that as they are enlarg'd, they touch and rub upon each other during their Action, and therefore they both act, as well they may, at once: The Swelling is what attends every Inflammation, which here is visible sometimes.

FROM all this Discourse, it seems more than probable, that an *inflammatory Disposition of Blood* depends on a Conjunction of a *Viscid*ity, and an *Acrimony*; when the Viscid stops any where, the Acrimony exerts it self; from the Viscid proceed the first Stoppage and the Tumor; and from the Acrimony,

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Acrimony, the Hurry and every sort of Irritation: Methinks then, any one skill'd in the *Materia Medica*, may readily conceive what sort of Diet Inflammations require; for *Diluters* and *Obtunders* are always order'd, that is, thin and mucous Diet is the proper Regimen; therefore Panado's, Water-Gruel, thin Broths, Emulsions, and Pti-fans, must be their Diet and Drink: And in *Inflammations of the Breast*, Custom has prevail'd to use an Infusion of Horse-Dung in Milk, or Carduus-water, for Drink, which is good, because it contains nitrous Parts, capable of inciding the Viscid, and of correcting the Acrimony: And as cold Liquors, or Acids, as viscid, vinous, or salt Diet, encrease the State of Blood, therefore it is, we must avoid Lemons or Oranges in their Drinks, too commonly allow'd for the Fever: Mushrooms, Melons, and *Legumens*, such as Pease, &c. are very improper, because they are viscous, and contain a latent Acrimony in them. It is a Maxim religiously to be observ'd, that *Internal Inflammations must never be brought to Suppuration*; for either there is no Passage for the Matter bred, or, however, Parts so sensible and so necessary for Life, must never suffer any considerable Injury; and it is observable, that Acids, if homogeneous, will corrode the sulphureous Filaments of the Blood into Corruption; much less, therefore, ought we,

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we, in these Cases, to allow *Spirits of Vitriol*, which the Ignorant are too bold with in most feverish Cases: The mucous Diet is allowable in a moderate Degree only, both for enveloping the Salts, and for Dilution of them; the first Property of these, guards from the Points of the Salts, that they should not prick and wound the Membranes, and the second keeps them at a Distance from each other, that they might not jostle and fret in the Vessels, and also hinder the viscid Particles, swimming in the *Serum*, from combining into too large Clusters.

IMPOSTUMATIONS or Abscesses naturally succeed Inflammations: For when the Parts are so highly inflam'd, that the Blood within certain Limits stands still, and the Fibres are stretch'd beyond their elastic Power, they crack, and spill the fretted Juices into one common Chamber, and there they rest. It is happy for the Diseas'd if the Part were of small Consequence to Life, and if there were any Out-let for it; but this cannot be expected in the Bowels, where the Matter extravas'd lies, and receives Increases hourly, so that not only the Bowel is turned into a corrupted Mass, but the Blood feels the Smart also; for every Minute some Parcel of this Corruption is snatch'd into the Vessels, and being incapable of turning into Nourishment, it raises the Fits of Fevers observable in such Patients, and being an

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inexhaustible Source, it may be lessen'd or put off by Art; but, alas! it can never be drain'd: 'Tis this Matter, taking up its Residence in the Vessels, which is ever and anon galling the Miliary Glands, those of the Intestines, and of the Kidneys, to throw off by Sweat, Stool, or Urine, a larger Quantity of Liquors than the Patients can bear; so that in those Abscesses the Patients have the Displeasure to feel themselves die by piece-meal. We will take a short View of the Signs of some of the principal internal Abscesses, that the Diet may be the more readily agreed upon. In an Abscess of the Liver, and, indeed, in all Impostumations, we are to enquire into the preceding Symptoms, where we shall find that Inflammations have gone before: In this Abscess, I say the hectic, the Water, Eyes, and Skin betray it; for if, after an Inflammation of it, these Signs concur, we conclude on an Abscess of the Liver. I have already accounted for the Fits of Fever; and the Colour of the Urine, Eyes, and Skin, are from the Stoppage of the Secretion of the Bile, and therefore the Blood being ting'd with this Choler, gives all the Skin the Hue it has; for all our Colour is from the Blood.

IN an *Abscess of the Stomach* an Inflammation has preceded, and the Vomitings, with which they were infested whilst it advanced no farther, are now laden with
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Matter, and sometimes with Rags of Flesh; they have a continual Hiccup, the Fever is slow, the Appetite is lost, and they perceive Pain, and an Inclination to vomit upon the least Morfel or Draught they swallow down. It is easy to conceive the Reason of the Vomiting, particularly upon taking Food; for as the Part, to which it is apply'd, is raw, and extremely sensible, the least Touch makes it uneasy, and then all the Nerves inserted into it are put into Tremblings and Contractions, so that nothing can be retain'd till these can act no more, which happens not till the last Moments: And it is as plain, that whatever the Stomach has lying loose within it, must be spued forth, and therefore Matter, and fleshy Rags will be thrown up. The *Hiccup* is but a Commotion of the Spirits in the Nerves of the inspiratory Muscles and the *Epiglottis*, and any troublesome Sensation in the Stomach and *Gullet* readily invites this copious Influx into the neighbouring Nerves. And no Wonder that the Desire of Victuals should be quite abolish'd, since the Fear of the Pain ensuing upon swallowing them down, along with either a total Deficiency of the specific Ferment, or a Depravation of it, makes them throw it down for no other Reason, than to prolong that Life, they want to employ to good Purposes. In an Abscess of the Breast, call'd an *Empyema*, Signs of an Inflammation

inflammation have preceded, which are follow'd by Shiverings, a slow Fever, and a Failing of the Spirits, which Symptoms immediately accompany a beginning Abscess; as soon as it is bred, the Breath shortens, there is a Weight felt in the Breast, Matter is heard, upon moving from side to side, to fluctuate, and make a Noise like Water in a Vessel half empty, they have upon them a slow Fever, their Cheeks are red, they are restless and get very little Sleep; it is to be observ'd, that the Breath shortens more every Day, insomuch as they are ready to choak at last, they often spit up a purulent Matter; but as *Hippocrates* observes,* their Cough is rather dry. The *Shortness of Breath* depends upon the Tention on the Lungs, and the Straitness of the Air-Chamber, for the Pressure is great on the Vessels and Vesicles; and as the Tumor grows daily greater, and breaks, it ouzes large Quantities of Matter into the Breast, till the Cavity allows of no more, and then they are ready to choak upon every Motion, for that Lobe is become useless, it is a Load, and feels such to the Diseas'd: The Floating is heard only while the Cavity is half full, for at last it makes no Noise at all, because the Breast is then quite fill'd. The

* 10. Coac. 1.

Cough is rather dry, because the Ulcer is on the Inside of the Lungs, seldom in the *Trachæa* and *Bronchiæ*, and therefore they can cough up no Parcel of the Matter contain'd: It may indeed happen, that a small Ulcer may be in the Passage also, and then they will spit up a little Matter; the Redness of the Cheeks depends upon the Fever, as do their Watchings and Inquietudes upon the Acrimony of the Matter, which swims in the Serum without mixing it self with it.

IN a *Vomica* the Case is chang'd and inverted; for as an *Empyema* is an Abscess on the Inside of the Lungs, this is on the outward Passages of them, and therefore there is a great Analogy between the Symptoms of these two Diseases, as there is in their Cause; for here they breathe shorter daily as it encreases, they cough dry for some time till it breaks, and then the Matter runs off as from a Fountain, but the Fever, the Redness of the Cheeks, the Inquietudes, and the Watchings, are common to both. As these two agree in all, or most Symptoms, I shall only remark, that the Matter in a *Vomica* ripen'd comes off all at once, because it was contain'd in a *Cystis* or Bladder, on the Outside of the Lungs, and therefore finds its Way out, which cannot happen in an *Empyema*, that Matter being contain'd in the Breast, from whence there is no Passage thro' the Channel of the Lungs. In an *Ulcer of the Kidneys*

neys, there is an Evacuation of purulent Matter, their Urine is white like Milk upon making, which a little after settles to the Bottom, there is a Pain on the Region of the Loins, a Difficulty in making Water, and a constant Inclination to make it, besides the hectic Fever. It is impossible so sharp a Liquor as Urine is should pass thro' the Kidneys, without giving Twinges, if the Parts are depriv'd of their natural Mucus, which even the Veins and Arteries are lin'd with; any sharp Liquor vellicates them, so much as to give Uneasiness; but if they are bar'd and corrupted, as they are when ulcerated, this Uneasiness arises into Pain, that is, there is a vehement Irritation raising an Idea of Trouble: Matter and Phlegm differ in their Gravities, because Phlegm swims upon, and Matter subsides in, watry Liquors; in this Case then, what is evacuated is truly Matter, which seems to be the Oils of the Blood corroded by the concentrated Acids and strictly united: There is a greater Analogy between these heavy essential Oils and Matter, than is imagin'd; and tho' Matter will neither be coagulated by Fire nor acid Spirits, yet *there is a way by which it will blend with Water and be united to it*. Matter smells strong, so do these Oils; and these Oils taken internally raise a like Hurry in the Blood, with *Matter* included in it, as is well known by the giving them internally,
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but their Ungratefulness makes them rejected in Practice. A Strangury and constant Inclination to make Water proceed from one and the same Cause; for the Acrimony by its Irritation, puts the whole Duct upon frequent Contractions and Twitchings, a small Degree of Sharpness gives a Desire to make Water, and a greater a Strangury. In an *Ulcer of the Bladder*, the following Signs appear, the Matter smells more than in that of the Kidneys, there is a more constant Difficulty of making Water, and the Pain of the Part is continual; the Reason of the Smell is the Stay it makes in the Bladder, and the Corruption of the Membranes, as well as the greater Quantity afforded; for the Smell is in Proportion to the Thickness of the Line that strikes the Nostrils, as may be known by the same Plant, which is sweet scented and stinking at different times: This Smell is yet greater, when the Membrane is so corrupted, as to be thrown off in Scales. The nearer the Ulcer is to the Sphincter, the greater is the Dysury, and the more continual is the Pain; for as this is the Passage for its *Exit*, and as the Salts of the Urine and Matter are very sharp, and do lie continually upon it, and from the Posture it must do so, therefore both are continual and uninterrupted, which is not so in an Abscess of the Kidneys.

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IN an *Ulcer of the Womb*, Matter is thrown out, they are feverish, have Pain on that Region, particularly upon Coition, and an Inflammation has preceded; all these Symptoms are well accounted for, by what has been said on other Ulcers: So that it may be deem'd as a *general Remark*, that *all Ulcers* are accompanied with an Efflux of purulent Matter and Scales, if there is a Passage for 'em, a Pain in the Part affected, particularly if they are rudely handled, with a hectick or slow Fever, and with an Atrophy, and an Inflammation has always preceded. The Reasons of all these Symptoms have been fairly stated to proceed from an Acrimony in the Juices, which first were viscid: Let us from this Account take a view of the Diet necessary in such a State, and we shall find that *Emplasticks*, *Obtunders* and *Balsamics*, are necessary; such are all Kinds of Milk, Barley Water, the Feet of Animals (in Jellies, or otherwise) Rice, Millet, Oatmeal Gruel, Almond Milk, the fresh Water Fish which grovel about Stones, River Crabs, and Mead: And that for a contrary Reason we are to avoid Aromatics, hot Spices, salt Meats, Pickles and pepper'd Meats: These latter fret and gall the Parts too much, they encrease the Hurry of the Blood, and invite the Humours to the Parts, and so would indulge that Secretion, which we study to lessen;

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but the smooth, and soft Particles, we have mention'd, envelope the Salts, retard the Hurry, and prevent all the Consequences, such are the Atrophy and Hectick. I am also of Opinion, that in internal Ulcers, a gentle sub-astringent Diet would be advisable; for, as in external Ulcers, where the Part is humid, or subject to great Defluxions, Astringents are to be blended along with common Digestives, so the internal Parts are of this same Temperament; to wit, soft, and too capable of Defluxions, they, from their Tenderneſs, yield too much to an Influx of Humours, and suffer them to run off too readily; and nothing can contribute more to the Hindrance of this, than Sub-astringents; wherefore, in all Abscesses, allow the Patients the Use of Quinces, Medlars, Pears, Pomegranates, &c. and of Liquors in which Steel is quench'd: And it is for this Reason, as well as for Dilution, that the light Chalybeat-Waters are advisable; they dissipate the Salts, or divide 'em, and keep them at too great a Distance to attract each other, and they brace up the wounded Fibres, so that they won't yield to too great an Afflux or Efflux of Matter, from whence the Hectick abates; and the Sweats, the common Consequence of the resorb'd Acrimony, as well as the Atrophy from them, do also abate, or at least are warded off for a considerable Time: Where the Matter run-
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ning off is for the Advantage of the Patients, as it is' in Vomica's and Pleurifies, we are oblig'd to encourage this Flux, and their Astringency is prejudicial at the Beginning, till the Part is thoroughly cleans'd.

IN a *Dropfy* these Signs are observable: In that Species call'd an *Ascites*, there is a soft jutting of the Belly, which swashes upon Motion, the Feet swell, the Body grows lean, a Fever attends them, with a Difficulty of Breathing, a Cough and Thirst; and the Urine is always in less Quantity than it should be. The Belly juts because the Contents are supply'd from the Vessels which are broke, and the Swashing denotes an Extravasion there, the Feet swell, because the Pressure on the Iliac Branches retards the Reflux of the Blood and Lympha; the Leanness depends on the running off of the Nourishment into this Receptacle and emptying the Vessels of their Quantity, which us'd to plump them up, the Thirst also depends upon a want of Liquor in proportion as it is drain'd; and so does the sparing Quantity of Water made in the Dropfical, as also from the Pressure of the Kidneys, and moreover from the Thickness of the Juices; the Water is also most commonly red, by reason of the urinous Salts contain'd in it, however in a more waterish State of Blood the Urine is pale. Some hydropical Persons, more especially such as

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have a red Water are feverish, because their Dropsy proceeds from Salts in the Blood, capable of fermenting, and such also are troubled with a Cough. The Appetite of dropscal People is diminish'd, by Reason of the Thickness of the Juices secreted into the Stomach, which do not twitch it in a proportionate Manner to raise Hunger; 'tis observable, that the Dropsical rarely sweat, altho' we administer the strongest Diaphoreticks to them, which shews a Grossness and Thickness in the Juices: When the Belly swells much, the Breath begins to shorten, because the Pressure on the Diaphragm hinders its Extension downwards: And, lastly, the Legs which swell'd in the Day-time, settle and fall commonly in Bed, because the gentle Heat of the Bed melts the *Lympha*, and restores to the Fibres their wonted Elasticity, so that they vibrate, and drive forward their Liquors contain'd, which then have recover'd their usual *Tenuity*; from all which it appears, that the Blood of dropscal Persons is gross at last; I say, at last, because it is certain, that a dropscal Blood is not always thick, but very often so thin, that it won't coagulate upon the Fire, nor by Acids, just as we experience upon Serum, into which too much Water is pour'd; however, in an *Ascites*, the Blood and Serum are too thick; and sometimes also too saltish. Hard-drinkers drain their
Blood

Blood with too constant Use of diuretic Wines and Liquors: This Disease is commonly and justly reputed the Disease of Pot-Companions; the Breach may either be made by the too great Load in the Vessels, or by the Blood being render'd viscid, and stopping in the Course of Circulation, when the thinner Parts escape thro' the Breach, which is never repair'd: However I have seen Dropsies arise from a very different Cause, namely, from a Blood impoverish'd with watry Liquors: Wherefore, according to its different Causes, the Patients ought to observe and follow different Rules in their Diet. In the watry State, they ought to eat Meats roasted very dry; they ought to be allow'd Wine in a moderate Quantity, namely, a Pint in Twenty-four Hours; they shou'd often be allow'd a Draught of *Punch*, which is surely the greatest Diuretick, as well as the surest, known in Diet: nor can I see any Reason why Dr. *Cheyne* shou'd cry it down, as a destructive Liquor; in short, its Ingredients are excellent in their Kind, and the Mixture well contriv'd for some Constitutions; for it is eminently observable, that Brandy, tho' a rarefied Oil, blends intimately with Water; from whence it may be concluded to contain much volatile Salts in it, which gives it the Pre-eminence to all other essential Oils, which don't blend with Water, without some interme-

diate Body ; the Juices of the Lemons or Oranges are surely preferable to the Juice of Sorrel, and being blended with the Brandy, make the most agreeable *Salso-Acid* in Nature, and on this Mixture chiefly depends the diuretick Virtue ; and however angry he seems at these two, yet he approves the Juices of the Lemons and Oranges elsewhere, and gives us a Tincture, which he praises much, where Brandy or Arrack is the Vehicle ; Which puts me in Mind of one of Mr. *Dryden's* Prefaces, where he tells us, the *Britains* are of so good a Nature and Disposition, that what they hiss to Day, they will clap the next : Such Persons shou'd live upon Liquors in which Broom-Ashes are infus'd ; this Liquor, by entring the Blood, becomes also *Salso-Acid*, and by consequence diuretick : They must religiously shun all Milk-meats, and flatulent Diet, such as all the Legumens, as Pease ; and flatulent Roots, such as Parsnips, Turnips, Carrots ; their Sallads ought to be of Nasturtiums, Horse-radish, Mint, Bawm, and such warming Things. And for the other Persons, whose Blood is *viscid* and *salt*, they ought to use a Diet that will attenuate without heating them ; their Meats ought to be of young Animals, and of such a Nature as will be easily digested, such as Poultry, Veal, Mutton, and Lamb, dress'd with antiscorbutic Sallads of Endive and Succory :
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Their Liquor may be Ale, well hopp'd, in which you may put Elder-Flowers, or Water-Cresses. I find Ale with Dr. *Cheyne* is reputed a sorry Liquor also for Valetudinaries, because it may be boil'd into a Plaster; little considering, that the same may be said of all the farinaceous Diet, he is so fond of thro' his whole Performance: What is Flummery but a Jelly of Oatmeal, which may be boil'd up also to what harder Consistence you please? Eggs, how easy of Digestion soever, may they not be brought to what Hardness you please by Fire? And if we are always to consider how Fire will alter our Meats and Drinks in their last Stages, I am afraid we must starve ourselves by an over Caution. It is sufficient a Physician considers of what sensible Parts the Diet is compounded, and that he adapts it to the present State he is attempting to alter; all other Considerations are foreign to the Affair in Hand. There is another Species of Dropsy, call'd an *Anasarca*, in which the Skin, by pressing it hard with your Fingers, will leave the Marks of the Impression, like Dough; here the Fluids, and particularly the *Lymph*, do not circulate, and the Fibres are too much relax'd; so that being incapable of due Contraction, the Juices grow thick, and stand still, or at least run forward very slowly; the Parts are also very pale, because the Blood is such; From these distinguishing

Signs, it plainly appears, that the Blood is gross, and the Fibres too lax, so that the Diet must be attenuating and sub-astringent: Wherefore vinous Liquors, high Sauces, juicy Victuals, and the strong atramentous Waters, such as *Knaresborough*, or the like, must be made Use of; therefore pepper'd, salted, and spic'd Meats are of Use: Red Wine, of all the others, is most adapted, because it attenuates the Humours by its spirituous, and contracts the Fibres by its astringent Particles: It agitates the Mass into a due Thinness, for Agitation or a gentle Heat attenuates mucous Humours, and Wine mixes with them intimately: This Article of Mixture ought to be very well weigh'd, because I am afraid our Cookery is often injudiciously contriv'd; and how should it otherwise be, when such poor Creatures are left to manage the Grand Affair of Life? We live upon a vast Variety of Foods, and the Particles they are made up of, are so differing in their Natures, as that they won't unite in our Vessels: How can the watry, for Example, and the fat, mix within us? Surely they want some intermediate Substance to combine them: Nothing more agreeably or more surely unites the oily, watry, and saline together, than the Yolks of Eggs; so that I wonder they are not always, as they are indeed very often, us'd in Sauces for the compassing this useful Design.

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IN a *Jaundice* we meet with the following Signs ; there are a Weight on the right Side, a Yellowness on the Whites of the Eyes, Nails and Skin, a Looseness, Colick, an universal Languor, a Difficulty of Breathing upon Motion, the Urine is of a Mum-colour, and little in Quantity ; they have a Dulness, and an Itching : All which may be readily explain'd ; for the Weight is from Matter gravitating on the Part, which proceeds from the slow Motion of the Fluids thro' the Vessels, and from hence there is an Accumulation of Humours, and a Load is felt : The Yellowness is from the intermediate Degree of Refrangibility ; for the denser a Body is, the Colour is less refracted, but Yellowness is next to Redness : However, it proceeds from the Retention of the Bile within the Vessels ; for in two Hours two Drams are known to be retain'd, that is, six Ounces in twenty-four Hours, which is mainly emptied by Urine, and makes it so thick, muddy, and deeply colour'd. The loose Stools depend on the indigested Chyle : There is in Chyle, unmix'd with the Salts of the Bile, a tartareous and relaxing Acid, which gently irritates and promotes Stools : The Colick arises sometimes from *Varices* on the Vessels, but more commonly from the Viscosity of the Juices fermenting and lifting up the Bowels. The Languor or Faintness, proceeds from the Chyle's passing off

off and depriving the Blood of its Nourishment, and also from the Viscidity of the Juices in the Vessels ; for their Spirits are never separated. The Difficulty of Breathing, is from the Retention of the Bile, which fills each Section of the Vessels fuller than they were before ; and this Retention depends on a Viscidity in the Juices, which hinders them from being separated into their fine Capillaries. The *Colour of the Urine* exactly imitates the Colour of the Bile, and is therefore small in Quantity, because the Serum is thicken'd, and render'd unfit for Secretion. Persons seiz'd with Jaundices are heavy and dull, because the *Idea's* bear a Harmony with the Tenuity and Motion of the Blood and Spirits ; if the Spirits are few, the Blood is too gross, and the Motion too slow, so that a good deal of it is brought to the *Cortex* of the Brain, without being able to pass thro' ; it therefore stagnates there, and loads the Brain, and produces a Sense of Oppression, an Impotence to Motion, and all the Train of slow *Idea's* : If there were no Truth in this, to what End have the Physicians of all Ages mark'd out the Temperaments, or to what Purpose do they advise the changing the State of Blood and Spirits in the several Species of Madness ? From all this, let us take a View of the Meat and Drink proper to be administred in a Jaundice : In such a
Jaundice,

Jaundice, we must observe to avoid all that will thicken the Blood and Juices; and therefore Brandy Drinkers are very subject to this Disease, because, we observe, that if Brandy is blended with the Serum, it hardens into a Jelly: And I have often observ'd in Persons dying of a Jaundice, follow'd by a Scirrus and a Dropsy, that their Livers were harden'd irreparably by the too frequent Use of it. Considering that Brandy is a fine Oil, and a volatile Salt, it may be ask'd me, why it jellies our Juices? But if we consider how the same happens by the Fire, or excessive Motion, we may conclude by Analogy, that the active Particles it consists of, raise a Motion in the Serum, and evaporate so many of its watry Parts, as to leave it a Jelly; but it is to be observ'd, a certain Proportion is requisite to produce this Effect: We are not therefore to blame the Use of a Liquor, because it may be abus'd. Wine is a Cordial of the first Rank, but Cordials themselves will destroy. It is the same in our corporal Affairs as in moral. Frugality is commendable, though Avarice be a Vice, and *Omne Nimium vertitur in Vitium*: In short, the strongest Attenuants, such as volatile Salts, continu'd to Excess, produce Rheumatisms; for if they are given moderately, they excite a Motion in the Fluids, and throw off a good deal of superfluous Serum, by the Pores or Kidneys, and this being

being effected, the Blood is rid of its Clog, and circulates as well as ferments duly; but if we exceed in their Use too much is drained, and then the Salts and Oils come too close together, and Coagulations ensue. Physicians, as well as Patients, are willing to continue in that Road they find Relief by, but whoever over-act their Part, must suffer like the Gentleman of * *Pisa*, who was never contented to be well, but wanted still to be better. When Patients are set to rights they ought to be cautious how they tamper farther, because there is requir'd a just Proportion of Tenuity or Consistence in the Juices, beyond or below which Health is destroy'd: And we have no other Signs of Health, than that all our Functions go on in a regular manner as they us'd to do, *viz.* our Appetite is good, our Digestion is quick enough, and our Stomachs easy, our Stools are regular and of a proper Consistence, our Urine bears a proportion with the Liquors we swallow, and is of a nice amber Colour, we breath easy upon Motion, our Pulse is natural, we move briskly, and walk without Trouble, and we have no Pains about us; when, I say, we have brought our Patients to this pass, why should we insist longer upon Medicines? If we do, it will be at

* *Essendo ben e volendo esser meglio, sto qui.* An Epitaph the Gentleman order'd to be written on his Grave-stone.

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their Expence of Pocket and Health. I hope the Reader will pardon this long Digression from the Subject in hand: Such Ictericall Persons then must also avoid, for the same Reason, all viscous Diet, such are Fish of all Kinds, Legumens, as Pease, and all Things made up with Honey or Sugars, for all Things over-sweet are viscous, as they who boil Syrops are sensible of; and as Excess in Diet occasions a Viscidity, the Stomach not being capable of digesting all we swallow, it must also be religiously avoided. Having remark'd what is dangerous, it will be easy to conjecture what Diet is proper, for if viscid Meats and Drinks are to be shunn'd, we must use such as will attenuate, or, at least, will afford little of the Viscid: Let therefore, the Diet consist of Meats dress'd with Spices; by this Artifice we nourish, and, at the same Time, alter the State of the Juices; and our Liquors ought also to be medicated with proper Ingredients; wherefore well brew'd Ale may be their Liquor, in which you may infuse Turmeric, the Aperient Roots, Fumitory, Steel, Cardamom Seeds, Horehound, the great Celandine, Sassafras Wood, Guaiacum, Ground-pine, Agrimony, Daucus Seeds, Monks Rhubarb, Flowers of St. John's Wort, Madder, and Materials of such Kind, as will gently attenuate without giving too great a Disturbance to the Blood, and therefore

fore such as will gradually dig down the Obstruction. But, as the Causes of Jaundices are not uniform, this Management will not be always convenient : We must, in short, change it for a contrary one : For Example, if the Jaundice depends upon an Inflammation, as it often does, the attenuating Diet wou'd exasperate it, and in this Case all the thin and watry Meats and Drinks only are conducive, as I have already remark'd. If this Disease depends on a Stone sticking in the *Ductus Choledochus*, then also the Diet must be very different from both the former, for the most Part; because if it be a large one, insisting upon an attenuating, and in this Case a forcing Diet, wou'd make the Fibres too tense, and wou'd perhaps flame them, and so bring on an additional Disease, which without all Peradventure, wou'd make the Case deplorable; for as Diet must be contrary to the Disease, as well as the Medicines, surely equal Care ought to be taken of it, as of them : Here then we must insist on a smooth and diluting *Regimen* ; therefore Artichokes or Asparagus dress'd with Butter or Cream, Almond Caudle, Cream and Milk, all Nourishment drawn from Barley, or other Grain ; Beets fry'd or fricas'y'd, butter'd Loaves, Milk-Chocolate, Soop of Cray-fish ; all the Diet of Creams, poach'd Eggs, Mead, Panado, Pease-Soops, Tripes, Turnip - Soop, Veal-Broth,

Broth, and such like; these glib the Passages, and wash off the Stone, both which are necessary jointly.

IN a *Cholera*, these Signs are observable, they belch and vomit Choler upwards, and have choleric Stools; they have violent Pains in the Bowels, are very thirsty, have no Appetite, their Pulse is quick and weak, and their Sweats are mostly cold, but hot whilst their Vomiting is recent. They are subject to Faintings or Swoonings, and Deaths are very common. When there is a Struggle in the Stomach between the contrary Particles lodg'd there, the Walls of it are twitch'd and contracted, and the Steams being light, and being near the upper Part of the Stomach, easily find a Passage out in Belches: But if the Humours also ferment very much, they necessarily gall and velligate the sensible Coats of the Stomach into Contractions all Ways; then the Humours are thrown off both upwards and downwards, because the Irritation is very violent. It is very observable, that *Cholera's* reign mostly in *August* and *September*, when Cucumbers grow cheap and plentiful, and I remark the poorer Sort live upon them as a Diet: Then it is, we observe the Weekly Bills to mount up to Seven Hundred, and yet the Gentlemen of the Faculty find no Encrease of Business, because they are mostly poor, indigent Creatures, who are then sick,
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and such as apply only to Apothecaries, or have no Assistance at all. As to this Fruit, its Juice expos'd to the Air dries into a Gum, and all Gums are found to contain an acid Spirit and an Oil, more or less homogeneous, more or less crude; and as the Stomach soon dissolves this, these are apt to fret, and from this arises this Corruption so observable in this sort of Diet: How is it possible such Juices should ferment in our Stomachs, without irritating those tender Membranes into Spasms and painful Contractions? But suppose these corrupted Juices do not lodge there in Plenty, for the first and second Vomiting generally empties all that is there, yet these Strainings draw more into the Stomach from the Blood, which is even sharper than they: And thus the first *Nisus* is the Cause of a second, and the second of a third; for then the Bent of the Humours is hurried that way, where it first began; and is continu'd, till, by Art, or some other Chance, they are check'd. The Thirst, Quickness of Pulse, and warm Sweats, depend upon the swift Motion of the Blood and Spirits, so that the Heart is frequently irritated, the Blood is hurried about, and so passes thro' the Pores, or elsewhere, and drains the Mouth of *Saliva*; for Nature cannot supply the natural Secretions and the preternatural Evacuations at one and the same Time: Hunger depends upon an Irritation, but then
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it must be a proportionate one, not such as frets the Stomach. Now here the Humours are too acrimonious, and too much corrupted for producing Hunger. Faintness and even Swoonings are Consequences of the immoderate Evacuations, which have so exhausted the Spirits and relax'd the Nerves, that the Blood flaggs in its Motion, and at last stands still, and then the cold Sweats, and at last Death, take them off. It is to be observ'd, that the same Species of Irritation raises a Vomiting and a Flux, only the former is greater. From these Observations on the Signs and their Causes, we may readily perceive, that the Diet in this Disease ought to consist of Meats and Drinks which *obtund* Acrimonies, and which are *sub-astringent*; the former alter the Texture of the Humours, and the latter close up the gaping Mouths of the Stomach Glands: Wherefore Gruels of Barley, Panado's, Broths of Chicken unsalted, of Veal, Jellies, Spaw-Waters, Quinces, Pomegranates, Almond-Milk, and Claret-Possets are conducive; but as the Stomach checks at every Draught or Morsel, very little of any thing must be swallow'd down at once. All fat, sweet, and poignant Diet must be avoided, as well as Milk-meats, Summer Fruits (Melons, Cucumbers, &c.) Fish, and Swines Flesh, as also all crude Diet, and generous Wines, Honey and Stum; because these are apt to turn sour,

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and to take up a great Space while they are fermenting, and also contain a great many Particles of differing Natures, which raise a Tumult, and fret the Stomach into Evacu-
ations.

IN a *Consumption*, several Signs concur, and as it varies from it self, we shall take a view of its different Species, in order to determine the Nature of the Diet to be used in them. The first sort of Consumption is call'd an *Atrophy*. In it the Persons waste away daily, their Flesh grows soft and flaggy, their Spirits fail, their Pulse is weak, and as *Celsus* has it, * *Fit naturaliter semper aliquibus decedentibus, nullis vero in eorum locum subeuntibus*. It proceeds then from a *Penury*, but what first introduc'd this Scarcity ought to be well consider'd: *Atrophy's* have two general Causes; either there is too great a Consumption of the Juices by Fluxes, Pains, Watchings, Vomitings, or other exhausting Causes, or their Repair is more sparing than it should be; for it must be consider'd, that we are not nourish'd by what we take down, unless these Victuals be thoroughly digested. Let us therefore take a view of Digestion, because we shall then the more readily know why we are or are not nourish'd. Whatever is taken down should,

* It is occasion'd from some Parts always going off, and none succeeding in their Place.

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if hard, be well chew'd and mix'd with the Spittle, for soft Viſtuals are as good as if already chew'd; the Spittle and Juices in the Stomach, with the Liquor we ſwallow, ferment what is taken, and the Preſſure of the Stomach and adjacent Parts embraces and ſqueezes the harder Parts, ſo that the Juice is entirely drawn out of the Fibres of the Viſtuals, and is then alſo *fermented to a certain Pitch, agreeable to the Nature of the Perſon to be nourish'd.* If then the Juices of the Blood and ſecretory Ducts are ſtock'd with Particles too active, or if the Viſtuals themſelves are of too ſtirring a Nature, then the Chyle will be too high digeſted, and the Blood will be too hot, and then Diſeaſes of an acute Nature will enſue. If the Viſtuals and Juices of the Stomach are both of an inactive Nature, then the fibrous Parts of the Meat will lie untouch'd, Nothing will be preſs'd out of it, either by the Stomach or by the Juice of that Organ, and therefore will paſs down in undigeſted Stools; the ſofter Viſtuals, and ſuch as are call'd eaſy of Digeſtion, will remain in the Stomach without proper Fermentation, and will grow putrid, corrupted, and ſour, as it would if expoſ'd to the open Air; and then Colicks, Winds, Night-mares, Belchings, Convulſions, Scurvies, and a long Train of Diſeaſes of a cold Complexion enſue: But if the Stomach and Juices of the Blood be well

constituted, that is, if the Fibres of the Stomach be tense enough, if the Juices of the Mouth and Stomach be of an exact Degree of Mixture, let the Victuals be never so hard, they will be digested; however, in such a Case, it is better to give the Stomach as little Trouble as may be; and we must observe then also to administer Victuals as temperate as can be, that is, it must neither be salted, spic'd, nor must it be watry or insipid, for so we shall gradually spoil the Stomach and Blood. 'Tis true enough, that the low and watry Diet gives the Stomach less Trouble than the high and spic'd, but then it loads us with Diseases of a Chronical Nature; so that in Health it is difficult to observe a *Mean*: Nay, I may say, it is even hard for the Physician himself to discover it. If Persons have exceeded on either side for a while, they are oblig'd to change, till they have reduc'd Matters to rights. The short of the Whole is this; If a Person in perfect Health, as must be known by all the Functions being in just order, and their being void of Complaints, eats or drinks too high or too insipid Diet, for any time, he will necessarily grow distemper'd; and as no one falls sick of a Disease suddenly, the Blood grows deprav'd by piece-meal, and then the Person is become a *Valetudinarian*, which is but another Term for a crazy Constitution, and which Condition seems

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seems to be a *Half-way* between Sickness and Health ; As therefore Valetudinarians are dwindling into Sickness, it ought strictly to be regarded from what Cause their Craziness proceeds ; and as this Cause differs, and is far from being always the same, in sickly Persons, so it must necessarily follow, that the Diet or *Regimen* must be chang'd and varied, as the Cause differs : Or, as *Hippocrates* words it, must be *contrary* to this Cause. It is certain, were we to amend this Constitution by Medicines, we should administer such as we know to abound in Particles directly opposite to the Cause of it : And must we take a greater Latitude in Diet ? No ; we are there also to avoid any *Regimen* that will enhance that ill Disposition and Habit.

HERE it is Dr. *Cheyne*, in my Opinion, which I refer to sounder Judgments, is much overseen. *He takes a valetudinary State to be uniform, and orders his Regimen accordingly* : For Example ; he tells us that Fish is a bad Diet for Valetudinaries (*p. 40.*) He advises Sago and Rice to the Sedentary, (*p. 34.*) He says, *all* nervous Distempers are from Relaxation, (*p. 117, 137.*) He blames Oranges and Lemons, as the Authors of Colicks, and other nervous Diseases. He advises against Ale, as fit for nothing but a Plaister, (*p. 60.*) These Instances are gather'd out of many more : Now I ask

the Doctor, Whether there are not many *Valetudinarians* whose State of Blood may be amended by a Fish-Diet? Pray, are not Cray-Fish Broths advis'd in Hectical Constitutions? Are not Fish a glutinous Diet, and are they not proper in Spittings of Blood, Empyema's, or Consumptions? Do we not use the milder sort in Stranguries? Again, are not Sedentaries apt to have a gross and viscid Blood? Is not Rice, is not Sago, a viscid Diet; and is a viscid Diet proper for a viscid State of Humours? If *all* nervous Distempers proceed from Relaxation, how comes it to pass, that he reputes Hysteric Cases to proceed from Contraction? (*p.* 132, 216.) And why are Lemons the Cause of so many Disorders, while they are the best Digesters? (*p.* 62.) Watry Stomachs are weak; and wou'd he advise such to drink Water? Ale is smooth and farinaceous, and he advises such Diet every where; whatever Properties Ale has, these have the same, and therefore they are either good or bad alike. There is indeed no Uniformity in Constitutions, there is a vast Variety in Sicknes; and when we begin to feel ourselves disorder'd, it is our Business to inspect into the particular Nature of the deprav'd Constitution, and to prescribe a proper Regimen for it, which cannot be the same in every individual. Pardon this Digression; but as it gives us a Light into Digestion,

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we may see why we are, or are not, duly nourish'd; if we give too thin, too hot, too gross, or too cool Diet for the present Constitution, we are badly or not nourish'd at all; nay, what is worse, we are hurried into Diseases. In an Atrophy, therefore, they are consumed every Day insensibly, because their Nourishment is either carried off some other Way, or because their Digestion is bad, that is, if it be too high digested: Sweats, Urine and Stools are increas'd by the Acrimony of it; or if it be too low digested, little or no Juice is extracted, but the Fibres are still full of their Contents, and the peristaltic Motion carries all down in this Condition, or what is extracted is too gross to enter the Lacteals, and is therefore carry'd off in Stools; or if any thing is carried into the Blood, it is an unactive Mass, and produces Cachexies: Thus no Spirits are bred, nor can the Muscles exert themselves: In short, they waste, because there is no Supply, and they are feeble for the same Reason. In this Case, the Nourishment must be adapted to the present Condition; and therefore a Supply is necessary, but it must be consider'd *respectively*; that is, if it be a *natural Atrophy*, we must administer Food that is soft, smooth, watry and oily; or, in short, such as will supply Chyle, without too much Poignancy or Flatness: Hence Milk, and Milk-meats, Jel-

lies without Sours, Chocolate, Sago's, Rice-Meats, poach'd Eggs, Caudles, Broths, Creams, Almond Puddings, what the Cooks call Leaches, and such like: This Diet ought to be in such Plenty, as to dilate the Vessels; let not the Chocolate or the Almonds bear any blame in this *Regimen*, for being made of Nuts; for Chyle must be oily as well as watry, and where that is wanting, no Matter from whence we borrow it; do but blend it with an intermediate Body, and the Business of Fermentation will go readily forward.

THE second sort of *Consumption*, is an original one, or an Ulcer of the Lungs: It has the following Signs; a dry Cough, a stuffing on the Breast; a Vomiting and Hectick begin it; then while it encreases, these Signs continue, and the Patients begin to waste; in the next Place the Lungs are inflam'd, and the Patients have a Peripneumony; and lastly, the Lungs are ulcerated, and they spit up a greenish and stinking Matter. Matter never gravitates, but when it perches; and therefore there is some Stop in Motion at the Lungs, which makes this Stuffing and Load there; the Lungs being hindered in their Play, betray their Indisposition by a Cough, because they fall down faster in such a Case than they were lifted up, and a sudden Contraction in them is a Cough; the Gullet and hinder Part of the *Trachæa* being contiguous, if this is sorely shock'd,

shock'd, that will also suffer; and as the Gullet and Stomach are but one continu'd Organ, the Whole also is disorder'd; wherever the Blood is sharp or acrimonious, the Spirits are of the same Indisposition, so that the Heart will be mov'd as those move; but in such a State they are hurried forward, and therefore the Heart will also be mov'd swiftly, the Pulse will be quicker, and the Blood hotter, that is, we shall be *hectical*: That a Hectick does not always depend upon an Emptiness of the Vessels appears, first from consumptive People bearing large Evacuations at the Beginning; nay, where do we ever meet with a Consumption cur'd without Evacuations and Revulsions of every Kind? And secondly, from the Hectick's Encrease, when we fill the Vessels with spirituous Liquors, for if Emptiness alone were the Cause, Filling alone is the Remedy; and if the Filling must be circumstantial, so must the Emptiness; therefore, it will only prove to be a partial Cause, which is certainly true; for if the Blood be sharp, and the Vessels not quite fill'd, the Mass has Room to ferment, and the Salts will be extricated, and exert their Force against the Sides of the Vessels, by pricking them, and causing them to contract swiftly: The Remedy of Hecticks makes this Reasoning apparently good, for diluting the Salts and blunting their Edges take it off. The En-
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crease of the Disease, where the Sweats and Urine are hurried on, make this Point good, for there the Blood becomes sharper and hotter, and the Patients waste, because the Acrimony is always at Work on the Skin and Kidney-Glands. When an Obstruction is confirm'd, and the Blood stands still any where, it grows sharp, and irritates the Vessels, so that the Blood is invited to the Part affected, and finding no Passage, swells all the circumjacent Parts, or inflames them; and when the Vessels can hold no more, they burst, and make an Imposthume, in which all the fibrous Parts of the Blood and Serum are shatter'd into a white, green, or yellow Matter. From this short View of an original Consumption, the Diet may easily be guess'd at; for, as the Blood is sharp, it follows, that we ought to feed with a smooth and diluting *Regimen*; and to avoid all Sours, all hot Spices, all spirituous Liquors and Diet; sweet Jellies, poach'd Eggs, Cray-fish in Soops, Milk, Emulsions, Barley-Water, Rice-meats, Whey, the Feet of Animals, Veal, and young Meats, River-Fish, and Puddings, are commendable; but Pickles, Meats salted or smoak'd, Onions, Pepper, Ginger, strong Liquors, or too great Plenty, is dangerous.

THE following Symptoms are observable in a *Dysentery* or *bloody Flux*; Humours tinctur'd with Blood or Matter, are thrown
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off by Stool; the Patients are violently grip'd, they are feverish, the Pain is most felt in one Spot; in the first Degree of it the Excrements are fatty, in the second slimy, and in the third fleshy: To these Signs many more are added; Blood is thrown off, because the Vessels are consum'd by the Sharpness of the Humours; the Gripes arise from the same Sharpness, fretting the Guts into Convulsions; the Fever proceeds from this Acrimony in the Blood-Vessels, twitching the Heart and Arteries into frequent Contractions; the Pain is felt in one Spot most, because one Part only is consum'd and ulcerated, and whenever any thing passes by that Part, it will be twing'd, as we experience in external Ulcers, when rudely handled; the Degrees are easily guess'd at, for the Matter lodging on the Surface of the Guts, must be first thrown out; then the Mucus that lines them; and, lastly, the ulcerated and corrupted Flesh from the Guts, which last Degree shews the Difficulty of Cure, particularly if the Flesh be black, because that denotes a Gangrene; the *Watchfulness* depends on the swift Motion of Spirits thro' the Brain; the *Anxiety* proceeds from a Stagnation somewhere about the Heart, which depends on too great a Load to be hurried forward; the *Tenesmus*, or constant Inclination to go to Stool, denotes so great an Acrimony somewhere about the

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Levator Muscles of the *Anus*, that the Sphincter's Force is conquer'd by it ; sometimes there is a Vomiting, especially when the Gripes are violent, from an Acrimony residing also in the Stomach, and twitching it ; the Urine is red, from a Load of Salts in the Blood ; and *Thirst* is a Sign that these same Salts twitch and dry the Jaws ; a *Difficulty of Breathing*, arises from a Plenitude in the Vessels, which springs from the Rarefaction of the Blood and Fluids, which straiten the Air-Chamber, and hinder a sufficient Admission of Air to expand them : And lastly, a *Faintness* is always observ'd, by Reason of the Expence of Fluids daily carried off. From all this, it appears, that obtunding and sub-astringent Meats and Drinks are requir'd in a bloody Flux ; the first regard the Humours, and the latter the Fibres ; wherefore Eggs, Rice, Oatmeal, Barley and Wheat, and Feet of Animals are convenient ; and for Liquors, it ought to consist of white Decoction, with Tormentil Roots boil'd, of Cinnamon boil'd in Water and red Wine, of Emulsions made of steel'd Water ; and we must religiously refrain from all salted or smoak'd Meats, from Summer Fruits, which often produce it, and from spirituous Liquors ; all which are known to irritate, to ferment and breed Acrimonies. What I have said of a *Dysentery*, may in a less Degree be affirm'd of a *Diarrhœa*.

Diarrhæa, which therefore I forbear to mention.

IN *Colicks* we observe the following Signs, a Pain wandring and fixt in the Bowels, a Swelling all over the Belly, and a Costiveness; these are the common Signs, but they vary, as does their Cause; and therefore Colicks are infinite in Number, the most common are the flatulent and hysterical; I shall speak first of the *flatulent Kind*: And here it is observable, that the Pain is not much fix'd, unless it be obstinate, but wandring, with a grumbling Noise; the *Colon* is stretch'd and swell'd all over the Belly, and feels like a small Arm laid a-cross; these Patients are reliev'd by voiding Wind upwards and downwards, they are troubled with Vomiting and Costiveness in Proportion to its Duration. The Wandring proceeds from the Winds jumping out of one Cell into another of the Gut; the Swelling is from the Space taken up by these Winds; for when Vapours are rais'd from Water, they occupy a far greater Space; and the same may be said of Steams from our Victuals, or the Mucus of the Intestines; the Vomiting is from the inverted Motion of the Guts, which do usually contract themselves from above downwards; but as the Excrements are stopp'd, and the Pain, from Distention, is violent, the animal Spirits are driven into a Confusion, and determin'd by
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the Pain into the Stomach and Muscles of the Belly; the Belchings are only Escapes of fermenting Liquors thro' the Gullet; sometimes there is a Pain observ'd on the Loins from the Tension of the Muscles, and particularly the Tendon of the Transversal; but the Hypochondres are always stretch'd; when it becomes chronical, the Pain fixes, for then the Part affected becomes habitually distended in the middle, and contracted at each Extremity, but more on the lower Parts, so that the Wind cannot find an easy Passage; the Urine is red, and deep-colour'd in such Colicks, where sharp or Sea-salts reign in the Mass; but pale in phlegmatic Persons, from the Viscidity of the Juices; the Extremities are often cold, from the Expence of Spirits, and slow Motion of the Blood, occasion'd by the Evaporation of active Particles in them, by reason of the Duration of Pain; the Fæces in this Colick are frothy, because whatever is taken, is fermented into Bubbles; in this Case the Stomach is weak, or the Victuals are of a slimy Disposition, and somewhat acrimonious, or the Ferment is too weak, so that the Stomach can't sufficiently attenuate the Victuals, or they are of themselves too tenacious; upon either Account *Poignants, Bitters, Aromatics*, or *hot* Diet is convenient, because it strings up the Fibres, and makes them closely embrace the Meat and Drink,
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and so helps to extract the Tincture of them, or attenuates the mucous Parts of the Victuals, and so exhales the Flatulency of them. None, surely, will in those Valetudinarians, advise the farinaceous and flabby Vegetables, or pure Element alone; *Bath-Waters* are too serviceable here to advise that, and the Element is only a Vehicle for their exagitating Parts. If this is not Fact, why are bitter Infusions, with *Bath-Waters* drank upon them, deem'd so profitable in such windy Stomachs? but because these Medicines attenuate, divide and exagitate the *Mucus* in such Stomachs, because they help to add self-moving Particles to the Victuals, and dry the Fibres, and because they help to invigorate the Peristaltic Motion, and send the Contents forwards without stopping in this *Recevoir*, and putrefying there. Here then it is of experienc'd Use, to give the Patients Diet of easy Concoction and of good Nourishment, to allow vinous Liquors, and sometimes spirituous, to insist upon Meats high-season'd with Pepper, Cloves, Mace, Cinnamon, Nutmegs, and Ginger, and to avoid all Legumens or Pulse, all Fruits, sour Liquors, or such as are apt to turn sour; to avoid malt Liquors here is certainly very proper, because they are mucous and acrimonious, and readily ferment into Wind, as the Air-Pump proves to the Eye; Cyders
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and Perry's must for the same Reason be strenuously refus'd them, for they are very full of Wind. But in a *Hysteric Colick*, the following Signs concur, the Belly is generally costive, they have violent Pains near the Navel, which are fix'd, they are little or not at all eas'd by evacuating Wind; their Belly is lifted up as if by Jerks; they have hysterical Symptoms upon them elsewhere, and any Fit-of Grief, which is their *Foible*, exasperates their Pain; the Costiveness depends on an acid Mucus, lining the whole Channel of the Guts, so that they are galled into Spasms and Contractions, and these make Stops of the *Fæces* there; from this same Humour it is, that they suffer racking Pains; but also the Humour is so pinching as to invite an Afflux of animal Spirits thither in a tumultuous Manner, so as to jerk up the Bowels, like a Ball at the Navel; Wind emptied, affords them little or no Ease, because the Guts contracted by the Nerves, are the principal Reason of the Pain, and there is no *Exit* thro' the *Anus* for that Matter; the hysteric Symptoms which accompany this Disease, betray its Seat to be remote from the Intestines. As an Acidity is plainly discoverable in hysteric Persons by the four Belchings and Vomitings, and by their Extraction of *Crocus Martis*, *Verdigrease* and *Ceruse*, from the different Metals the Matter chances to be vomited into, and then

than tasting sweetish, or bitterish and styp-
tick; so *Dilution* and *Obtusion* or *Altera-
tion* must be the Method observ'd in Diet;
we therefore order them to drink *Bath* or
Chalybeat Waters; to eat a farinaceous Diet,
to eat Meats of good Juice and easy of Di-
gestion; to avoid Sours, Pickles, Salts, and
too viscous Diet; thus we cut off all Occa-
sions of fresh Fuel, tho' we advance slowly
towards a Cure.

Colicks are sometimes of another Nature
than the two former, for we perceive bili-
ous Persons often troubled with Pains in the
Belly; we observe the Patients to have a
burning Heat upon them, what they belch
or vomit has a bitter Taste, they are rest-
less and watchful, they are feverish and
thirsty, their Urine is sharp, their Sweats
are hot, and they are often troubled with
Jaundice, or, at least, are yellow, and
their Excrements are ting'd yellow; as the
Cause of this is quite different to that of the
preceding: For here the acrimonious Salt
residing in the Juices, twitches the sensible
Membranes of the Guts into spasmodic
Pains; this same Salt gives a rapid Motion
to our Fluids, and Heat depending upon
Motion, it is more or less intense, accor-
ding to the Nature of its Concentration;
this Salt betrays itself in Belchings and Vo-
mitings, and gives us an Assurance of its
presence in the Stomach, as the Colour of

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the Excrements does in the Guts, and the Colour of the Skin does of its Lodgment in the Mass of Blood; now, what are we to do in this Case? We know Salts are always abated in their Keeness, by diluting them; and therefore, here pure Element it self has been known of great Use in such habitual Colicks; the *German, Tunbridge, or Islington-Waters* are useful; but *Bath*, or any sulphureous Ones prejudicial: The old * *Posca* has been known to cure, by drinking it, and by giving it in Glisters; *Rhenish* and *Water* is a commodious Liquor; and any of the smaller Wines from the *Rhine*, such as *Moselle*, will answer the Purpose, because as a fixt, or rather an alcalisate Salt, is the Origin of the Disease, these either dilute or correct this Cause: And the Diet ought to be also thin and diluting, or soft, and sub-acid, such as all the Diet of Barley, Oats, and Wheat, Pears, Apples, four Jellies, and Victuals season'd with Vinegar: And as these are known by Experience, to have been of Use, is there a more convincing Proof that Diet should be contrary to the Cause of a Disease, than this is? Or that all Valetudinarians can't be govern'd by one Rule? Having already spoken of Inflammations, and the Diet proper in them; whenever a Colick proceeds from thence, as

* Vinegar and Water.

is common enough after the Measles, we must regulate the Diet in them, as has been mention'd under that Head.

THE *Iliac Passion* naturally follows a Discourse on the Colick, since it is a Branch of it; or indeed, a more vehement Degree of the same; and therefore I shan't give any other Rules in it, than I have done in the *Colick*.

IN a *Scirrhus of the Liver*, the Signs which betoken it, are, a Weight on the Right-Side, a Choaking upon Lying down, a Swelling there, a Difficulty of Breathing upon a full Inspiration, a Jaundice, a lixivial Water, and at last a Dropsy; a Weight is a certain Sign of a Quantity of Matter lodg'd, and the Bulk of the Liver, being vastly enlarg'd from a total Obstruction of the Circulation in those Parts, proves this Quantity, which arises from a deprav'd Use of spirituous Liquors, hardening the Juices and the Fibres; so that the Liver has quite lost its Function: From this Bulk, it happens, that upon Lying down, the Liver presses hard upon the Diaphragm, and freightsens the Room for Air in the Breast; and the Tunor confirms us in this Opinion; as also the Difficulty of Inspiration, and Drawing in of our Breath: The Jaundice, which is generally black, depends on the Bile residing in the Blood-Vessels, and tinging the Skin of a dirty Hue; the Urine shews this Bile in the Blood, as also its Nature by its Colour,

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and

and the Dropsy is the last Stage of it ; for when the Liver is grown so stiff and parch'd, and so large, that the Lymphatics running upon its Surface, are press'd upon too much, they are distended and broken, and this Breach being incapable of any Amendment, their Liquor continually ouzes and drips down into the Belly, and swells it. In this Case, 'tis not easy to determine on the Nature of the Diet, for the Obstruction requires an aperient one, but then the Dropsy is more encreas'd thereby ; and if we study how to fit it to the Dropsy, the Obstruction is rendered more obstinate: In short, if we wou'd hope for a strict *Regimen* in the Case mention'd, I may say there is none to be expected ; however, I hold a strict Observance of Diet, of Consequence : When it has come to this Period, the Obstruction receives no Benefit from the most aperient Medicines yet invented, whether Chalybeats or Mercurials ; and must that be expected from Diet, which can't be hop'd for from concentrated Openers? No, the Patient is doom'd to decay ; and therefore, as the only Hopes remaining, are from the Stoppage of the Ouzing, we may act in Diet, as we wou'd in Bleedings, to wit, we shou'd insist upon sub-astringent and emplastic Materials ; they will retard the immoderate Efflux of Lymph, and will help to spin out Life to a longer Day.

Spar-

Spaw-Waters therefore, drunk with Claret, all Liquors drank with Steel quench'd in them, Pomegranates squeez'd into Wine, Rhubarb in Beer or Nettle-Tea, a Diet of Quinces, of Rice, of Sago, of Jellies, and of Almonds. Indeed, if Liquors were diuretic and cooling, they wou'd conduce to the same Ends; and therefore I hold small Punch also convenient, because it wou'd dry the Blood by draining it, and cool the remaining Part, and so thicken it. But observe, that I only speak concerning an irremediable *Scirrhus*: For before the *Scirrhus* has reach'd this last Stage, it is certain we insist upon an attenuating Diet, accompanied with glibbing Particles; the first push forward the Humours, and the latter disengage their Adhesion to the Fibres: Take Care in attenuating, how we act; for by overdoing the matter, we shall thicken the Humours more. This puts me in mind of *Piso's* Rule in Coughs: He says, if we give too hot Pectorals, we are so far from inciding, that we thicken the Phlegm; Liquors well hopp'd and sugar'd are sufficient to answer the Design, by a gentle Attenuation and Lubrication; sweet Wines in this Case are also conducive, and, if arm'd with gentle Bitters, become thereby better.

IN a *Lientery* or *Cæliac Passion*, the Victuals we take down are thrown out again, little or nothing chang'd; the Peri-

staltic Motion is hasten'd, they are succeed-
ed by a Cachexy, and at last an Atrophy.
Many, indeed, are the Causes of these Dis-
tempers ; among the rest, Ulcers of the Guts
are a principal one, which I refer to their
proper Head ; but a Laxity of the Fibres, a
Defect of Bile, or an Obstruction of the
Mouths of the Lacteals, are the chief and
most common. When the Guts are too lax,
all they contain glide down with Ease, the
very Weight of the Victuals is the Spring of
Action, it presses them forward, and then also
the alimentary Tincture acquires some De-
gree of Putrefaction, which two join'd, pro-
duce an Extrusion hastily. 'Tis hard to dis-
tinguish between a Deficiency of Bile, and an
Obstruction of the Lacteals ; only in the
former the Fæces are not ting'd, but are in
the latter : However, the Cure differs not
at all ; for whatever restores the Bile, will
open the Lacteals, and *vice versa*. As to the
Symptoms then, I say the Victuals are thrown
off unchang'd, because there is no Time al-
low'd for their Dissolution, their Stay is too
short for that Design ; the Irritation at the
Pylorus, the Laxity of the Intestines, and
the Mouths of the Lacteals being shut, do
all hasten the Descent : The *Cachexy* fol-
lows, because the Blood grows too viscid,
and gross ; the Spirits, therefore, are too
few, and consequently the Circulation grows
slow and languid, and therefore there is a
Paleness

Paleness all over us, and the Legs dimple, as Dough, upon Pressure; and, lastly, they pine away for want of Nourishment. Whatever strings up our Fibres, whatever exalts the Fermentation, and opens Obstructions, will relieve; but Diet consisting of volatile or alcalifate Salts have these Effects in an eminent Degree: Wherefore, Aromatics, hot and pungent in Liquors or Meats, are convenient; Peppers then, and all the hot Spices, as Nutmegs, Mace, Cinnamon, Cloves and Ginger, do good in this Case: Medicated Wines with Horehound, Wormwood, Germander, Betony, Marjoram, Mint, Centory, and such like, are convenient for common Drink. But sometimes these have not their proper Effect, without a Shock given to the Bowels by Vomits, which I have no Design to comment upon at this present.

A *Bulimia*, or Dog-like Hunger, is an uncommon Disease; however, I have met with it twice in my Practice: They were both Females, and much distemper'd; if the Hunger continues for any Time, they are either too costive or loose, and they grow dropsical. Hunger argues some Pungency; and this, saline Particles in the Stomach, which twinge us into an Idea of Hunger: If this Acidity be a styptick Acid, the Guts become rigid, and then the Excrements are arrested, and a Costiveness succeeds it; but if it be a tartareous one, it

H 4 twitches

twitches the Intestines into Motion, and a Flux follows: And, lastly, an *Anasarca* seizes them, by reason of the Grossness of the Juices stagnating every where, more especially where they are to ascend. In this Disease then, an Acidity is the Cause, which must be diluted, obtunded, and corrected, by Meats and Drinks as follows; by Canary, Bath-Waters, Chalk-Water with Wine, bitter Wines, and Lime-Waters, by Rice, and Wheat, and by fat Meats.

IN a *Pica*, there is an Appetite so deprav'd, as to eat Lime or Chalk, there is a frequent Spitting and an Anxiety: The Appetite is rais'd from an Acidity, and a deprav'd *Idea* from the Spirits; the Spitting springs from an Irritation of the Glands, and also the Desire, which encreases the Trembling of the Nerves of these Parts; but the Anxiety depends on the Stagnation of the Blood: The Irregularity of the *Idea* ceases, when the Acidity is destroy'd, which is cur'd also by a Regimen like that in the *Bulimia*: They are then Gradations of the same Cause.

A *Cachexy* is attended with a Paleness, a Pitting upon Pressure, and a slow Digestion: The Paleness is owing to the Blood, which is phlegmatic, the Pitting proceeds from the Stagnation of those phlegmatic Juices, and the slow Concoction from a Want of due Fermentation, and that from unactive Principles

Principles in the Blood. Here the Diet must consist of very active Parts, which will attenuate and thin the Viscidities, give Redness to the Blood, and ferment our Juices; such are strong Wines, pepper'd and spic'd Meats and Sauces, Meats ragoo'd or farc'd with Marjoram, Thyme, Savory, Mace, and such like; these add what Particles are wanting, and help the Blood to circulate, and so thin it.

IN *Crudities of the Stomach*, we are to consider how they offend: There is one called an *acid Crudity*; in it there are acid *Ructus*, a Tension, the Meat lies heavy on the Stomach a long while, the Urine is pale, there is a *Cachexy*, and a Dropsy, without any or little Thirst: The Belchings are from fermenting Particles; for where there is no Fermentation, there can be no *Flatus*; the Tension arises from this Fermentation, for Victuals or Drink raise their Bulks while they ferment; the Heaviness and long Stay on the Stomach, proceeds from the undue Struggle, and too slow peristaltic Motion; the Paleness of the Water, is from the Want of fix'd or alcalifate Salts in it; the *Cachexy* is from the Loss of the Spring in the Fibres, and from Viscidities in the Mass, and as soon as a *Cachexy* is confirm'd a Dropsy ensues, for these are Degrees of the same Thing, and till a Dropsy is radicated there is no Thirst, because the Salts are not corrosive,

rosive. Bath-Waters are an excellent Drink in this Case, because they both dilute and correct the Acidities effectually: The stronger chalybeat-Waters also conduce to this end; for they, being watry, do dilute the Acid, and being chalybeat pretty eminently, do correct it. Canary, and Water with a Toast in it, has a good Effect, because it dilutes and sheathes: If Drams are at any Time allowable, they are in such Stomachs, The Advantage of Brandy moderately taken, appears by the Damage done to our Appetites with the Abuse of it where it is found to take off the Edge of our Stomach, and even to abolish it: When, therefore, it is taken with Discretion, it blunts the Acid, and takes off a certain Share of it, where it is superabundant. I have already taken Notice of the Modus of its Operation; for it being a Compound of volatile Salts and a rarefied Oil, it corrects and obtunds the Acid. Lime-Waters are of use in this Case, to allay the Points of this Salt. The Diet ought to consist of Sallads, Nasturtiums, Horse-Rhadish, and Mustard, of young Flesh-meat, Poultry, and their Eggs.

IN the other *Crudity*, call'd the *Nidorous*, the Belchings smell like rotten Eggs, the Concoction is hurt, they are feverish, and are little nourish'd, and they are subject to St. *Anthony's* Fire, Scabs, and Leprosies. Smells proceed from Particles strongly fermented,

mented, and therefore their Belches are Steams arising from such Humours; in such a Case, the Concoction is too swift: For when Particles ferment strongly, the Fibres are soon corrupted; Salts of a contrary Nature meeting and struggling, raise a Heat, and a Feverishness in us; Nourishment is an Apposition of Parts, but when the Blood is too hot, it is too rapidly mov'd forward into different Parts, and is carry'd off by the Pores and Kidneys, and therefore too little tarries in the Vessels for Nutrition: Where the Blood is hot and corrosive, and also somewhat gross, it sticks in the smaller Vessels, and erodes them into Scabs or other Eruptions. We readily perceive then what Condition our Stomach and Bowels are in, and, by consequence, what sort of Juices our Vessels contain: The Bile contains a good deal of Oil, of volatile and fix'd Salts, as also of a nitrous one; these Salts, exactly mix'd with the Oil, make it of some Consistence; the Oil is partly volatile, and partly fix'd; for the first coming off is inflammable, and the latter is extracted by Spirits of Wine only, as may be seen by its *Analysis*; so that it appears, that Bile is a *Sal volatile oleosum*, blended with an *acid Salt*: If then the Juices are of this Nature, they will ferment strongly; our Business must be to aim to reduce this strong Salt to such a Mildness, as may render it incapable of sticking

ing to, and hurting the Fibres, which we do by Meats and Drinks of a diluting and cooling Disposition; and therefore pure Element is necessary, the Spaw-Waters of the gentler Kind, such as the *German* or *Tunbridge*, are also convenient for common Drink, and our Meats ought to consist of cooling Sallads of Lettice, Lambs Lettice, Borage, Cowslip Buds, Spinage, Cucumbers, pickled Samphire, and Barberries, and of Milk-meats, light Puddings, Panado's, of young Meats, and of fresh Fish.

A *Diabetes* is easily known from the Quantity of Water, which is continually running from them, and which is so smooth as to be tasteless, but not sweet as is vulgarly affirm'd: The Distinction between this and an Hysterical Person is easy, because these make Water frequently indeed, but those continually, and it runs, as I observ'd in a Gentleman whom I cur'd, as constantly, as if it sprung out of a Cock for Water; they grow lean, are thirsty, they have an Anxiety and Heat about the Heart; and a Pain in their Back, with a Cachexy, usher in Death. So constant a Flux as this, must necessarily depend upon a strong Bent of the Humours into this Channel: Dr. *Harris* does very properly term it a *Diarrhæa Renum*; and as in that of the Intestines, or a strong Vomiting, the Humours run with Violence towards the Guts and Stomach, so the Fibres

bres must be strongly and constantly contracted to make it so continual. Some Persons Fibres retain the Shocks given them a long while ; if therefore the *Renal Plexus* thus constituted, be irritated by any sharp Humours, it will be constantly twitching the secretory Ducts into Vibrations, and into a more plentiful Secretion ; but then the Humours must be dispos'd to obey these lasting Impressions, which I readily conceive they are ; for few are subject to this Disorder, save such who have drank too plentifully of small *French Wines*, and have eat much Fruit : So that we may conjecture the Blood has undergone a good Degree of Coagulation, or is eroded by these Acids, and the thinner Parts readily escape through the Ducts ; and the more, because the Load of Humours, whose Bent is determin'd to the Kidneys, distends and relaxes the Glands. The Urine of such Persons is smooth, because this Acid is intimately blended with the oleous and watry Parts of the *Chyle* and *Serum* : They grow lean, because the Waste is greater than the Repair, and the Thirst depends upon a Subtraction of Moisture from all other Parts ; and 'tis well enough known, that one Evacuation being encreas'd, another is deficient. They have a Pain in their Backs, because whenever Humours are hurried that Way, the Parts are distended, and a Distention there (as in the Head) is
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the more sensibly felt, because all the Parts are membranous; and the Pain is also a pungent one, which betrays a great Acrimony in the Humours, as does the Heat in the Breast; and the Anxiety denotes a Coagulation: When the Humours are much emptied, the Remainder gradually thickens, and finds a Difficulty to run along; and therefore a Cachexy is the last Stage of a *Diabetes*. From this succinct Account of a *Diabetes*, we may judge what can be effected by Diet, for we must give what will correct this Acidity, and preserve the Mixture of the Blood, and we must strengthen the Ducts of the Kidneys. It is affirm'd by *Hartman*, that there is a secret Vertue in Steel against a *Diabetes*, and therefore Spaw-Water is a convenient Liquor for such to drink, and it plainly appears, the *German* Spaw-Water has a volatile Salt in it, so that it is surely conducive upon more Accounts; for this Salt and the Steel are proper to resist the Acidity reigning in the Mass, and the Stypticity is convenient to close the Mouths of the gaping Ducts: Lime-Water is a proper Liquor for Drink, because it also resists the Acid in the Blood; but the most common Liquor now in use is *Bristol Water*: This, indeed, acts by its alkaline and styptick Parts, and so corrects the Acid in the Blood, as well as contracts the too open Ducts. As I have never yet seen any Account of these Waters,

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Waters, or heard of any Experiment made upon them, it may not be unacceptable to relate to the Readers, what I have done to find out their Principles by which they act. Upon pouring in Syrup of Violets, they turn'd of a very fine Green, from whence I concluded they contain'd some alkaline Particles, and to assure my self what Species of Alkali it was they were impregnated with, I pour'd into a Glafs of it a Solution of sublimate Mercury in Water, but no white Precipitate subsided, and therefore I concluded, that this Alkali was not a volatile Salt; nor was it a fixt Salt, for then a red Precipitate wou'd have fall'n down; nor was it a Calcareous Alkali, for then a yellow Powder wou'd have fall'n down to the Bottom; and therefore I conclude it was a *Chalk*, for *Chalk* infus'd in Water, will turn Syrup of Violets Green; I put Galls in Powder to it, they chang'd the Colour, and after some Time, a yellowish white Sediment fell to the Bottom, from whence I concluded, they contain'd a *Cupreous Vitriol*: These were the Effects of Trials, from whence I think we may safely conclude, that they also contain an *Alum*; for as they contain a Vitriol, and as no Vitriol is made without an *Acid*, it appears that some Acid runs along the Subterraneous Passages which makes this Vitriol: Now as an Acid running over Copper makes a cupreous

cupreous Vitriol, so the same Acid running over a Bed of Chalk makes Alum ; and as Chalk lies at the Surface of the Earth, the Fermentation between the Acid and this Chalk, may give that Warmth also ; 'tis true, these Waters, as all common Water does, contain some Sea-Salt, as appear'd by pouring Oil of Vitriol, and a Solution of Saccharum Saturni, as also Spirit of Nitre, in which Silver was dissolv'd, into them ; but the *Chalk*, the Roman, Cyprus or blue *Vitriol*, and the *Alum*, are its chief Ingredients, whose Virtues are to correct Acidities, and to contract the Mouths of the Vessels, which therefore make these Waters eminent in the Case mention'd : And upon a very good Foundation do such Physicians and Surgeons proceed, who order these Waters in habitual Ulcers, Defluxions, Rheums, bloody Urine, and, in short, in all Evacuations whatever, since they so eminently abound in styptick Particles ; however, let not that be done first, which ought to be last attempted, for proper Evacuations, Revulsions and Alterations ought to be first tried, before we offer to stop any Flux ; if any Wine is allowable, it must be red, because it is astringent ; the Victuals ought to consist of Rice, soft Fish, Almonds, Lettice, Purslain, Wheat, Calves or Sheeps Feet, and Milk-meats, and all Spices or diuretic Diet ought religiously to be avoided.

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avoided. *Hartman* from the great Opinion he has of Chalybeats, advises to boil all their Viſtuals in Waters in which Steel has been quench'd.

IN a *weak Liver*, we observe the following Symptoms, the Body is cold to the Touch, and swells every where, and they breathe short upon any Motion; sometimes indeed there is a Hectick, and Blood flows from the Nose; they have a great Weakness upon them. The Ancients call'd a weak Liver, what we call a depress'd State of Blood, for the Temperament of our Juices is generally discover'd by the Touch; if we are cooler than ordinary, the Blood abounds with unactive Principles, there is too small a Struggle rais'd, from which alone depends Heat; and in this Supposition the Blood is too viscous and gross, and therefore apt to stick in every small Vessel, more especially where an Ascent is requir'd; however, even in the upper Parts themselves the Blood moves too slowly, and is accumulated; and therefore, as of it self, it stands still, or moves too sluggishly, as soon as we move and press it forward by Action, then it is hurried on faster than the Vessels can circulate it, and so the Parts swell, and are distended too much; and as this is the Case of the Lungs, when we exercise, upon Motion, such cachectical People breathe short and thick: If indeed there be any

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Mixture

Mixture of saline Particles, a Hectick accompanies this State at Night, when our Pores are obstructed; and this small Struggle join'd to a Grossness in the Blood, is the Occasion of Bleeding sometimes at the Nose, which shews its Condition; if receiv'd upon a Cloth, for a pale Circle surrounds the red; and this Symptom happens from the Viscidity, which introduces a small Degree of Stagnation, and the Vessels being distended with the Load, crack and pour out Blood. Here it is easy to see, that our Intentions in Diet must be levell'd against Viscidities and Sourness: These are Valetudinarians, who can't admit of the slippery Diet Dr. *Cheyne* recommends: This, in short, is often the Case with sedentary Men, they don't use Exercise, the Juices, for Want of it, are apt to jelly in the Vessels, and we meet with Obstructions at every small *evanescent Artery*; the Posture they sit in retards the Reflux of the Blood into the Thighs, and their Feet often swell so much at Night, that their Shoes and Stockings become too tight, and take the exact Impression of the Thread Stockings they wear; to recommend Element and the vegetable Diet here, to cry up Rice and Sago to such Men, is to charge them with the very unactive Principles their Blood is already cramm'd with! --but enough of this above: No, we are to take quite a different Road with

with these Persons ; we must allow them generous Wine to a moderate Quantity ; we must give them a heating and attenuating Diet, Flesh Meat high season'd with Spices and Salt, Salladings and Farcings of sweet Herbs ; they must shun Milk, Eggs, Rice, Almonds, Jellies, and all the farinaeous Train, as they would do Poison ; if they drink Malt Liquors ripen'd by Age, and well boil'd, it ought first to be medicated with bitter, hot and aromatic Plants of any Kind, such as Rosemary, Ground Ivy, Ground Pine, Agrimony, the Seeds of Cardamoms, Cubebs, or Coriander, the Roots of Zedoary, Ginger, Calamus-Aromaticus, the Flowers of Camomile, Orange and Lemon Peels, and many more of these Tribes ; for these attenuate and exagitate the gross Humours, they blend with our Victuals and Juices, and rectify all the Faults of the Mass, and consequently abate the Symptoms gradually. If any where, here Cordials of the warmest Sort will be of Use ; for, to Digestion, to Circulation, and to Secretions, a certain Specific Degree of Tenuity is requisite, and this cannot be expected where there is not a sufficient Quantity of fermenting Particles : And the whole Tribe of Physicians, who pretend to a moderate Degree of Skill in their Profession, must own, this great Good is not plac'd in Element, or the poor and meagre Diet,

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it is eminently perceiv'd in the pungent and aromatic Food: 'Tis true, if such insist upon this poor, spiritless Nourishment, the Stomach may not chance to be disturb'd with Struggles; but then consider the Load and Oppression they cause; consider how poor and unactive they make the Blood, how few Spirits such Men enjoy, how little unable they become by it, how sluggishly the Blood moves, and how bloated their Muscles are; and then sum up to the World the Balance between the Conveniencies and Inconveniencies.

In an *Apoplexy*, the following Observables appear; a total Loss of Motion and Sense, a Snorting, but Respiration and Pulse remain; and in a desperate Case, they froth at the Mouth: Motion depends upon a free and joint Influx of animal Spirits and Blood into the Muscles, and so does Sensation, for they differ only in Degrees: And as the ingenious Dr. *Willis* has it, Motion differs from Sensation, as a Storm from a gentle Breeze; if therefore either the Blood or Spirits are hinder'd in their Influences, both are lost: Here the heaping too much Blood up in the Vessels, compresses the Brain and Nerves, so that there is no Motion or Sense to be expected from that Tract of Brain so disorder'd; and as the *Cerebellum* in an *Apoplexy* is free from this Load, so the Nerves of the Heart and Lungs continue their,

their Functions for a while : However, the Disorder of the Pulse, and their Snorting do shew, these Nerves are not quite exempt, the Pulse is quick and strong, or small and slow, that is, unequal, by Reason of the uninterrupted Course of it ; the Snorting is occasion'd by the Motion of the Wings of the Nose upon drawing in the Air, the Nerves of the Face having lost their Use, the Wings of the Nose, as in all weak People, lose their Elasticity ; therefore they flag, and are mov'd by the very Pressure and Suction of the Air ; the Frothing at the Mouth depends upon the Straitness of the Jugulars, the Nerves surrounding them grow flaccid, and the Veins fall in, so that the Blood does not return freely, as appears also by their Swelling ; and as *Lower*, by Experiment found, that Dogs froth'd if their Jugulars were ty'd, so happens it upon any Obstruction in their Passage, as in the Case before us. A *Palsy* is a partial Apoplexy, as an Apoplexy is an universal Palsy, so that the Difference is only gradual, not special ; it is accompanied with a Loss of Motion, or Sense, or both ; the Brain is free, because it is an Obstruction of some of the Nerves below that Organ ; the Nerves grow flaccid and at the Command of the Will nothing is executed ; a Redundance of viscid Juices relaxes the Nerves, as well as obstructs them ; the many Causes antecedent to the immediate,

diate, cannot be here accounted for, since the Obstruction is by no Means *univocal*, nor yet can the Intentions of a *Regimen* be stated without Regard to them.

A *Lethargy* is also a smaller Apoplexy, to which some Fever is join'd; the Sleepiness, the Impotence to Motion, the Paleness of the Face, the supine Posture, the Incapacity of holding any thing in their Hands, and the Forgetfulness, are Branches of the Inactivity of the Spirits; but the Ravings, the Yawnings, the Hiccups, the Cough, and the Tremblings, are Proofs of the Fever and Inflammation; so that it seems to be an Inflammation of the Brain, of that Kind the Surgeons term an Inflammation by *Congestion*, where sluggish and unactive Matter is loaded with Salts envelop'd in Phlegm, the Grossness of the Juices hinders a free Circulation; and therefore some Stop is put to the Blood in the smaller Vessels; this is so gradual, that it is some Time before enough are heap'd up to put a full Stop to the Blood's Motion, and this is the Reason why, before a Lethargy is confirm'd, such Persons find a Heaviness in their Heads; when this Obstruction is rivetted, then a Lethargy commences; and as soon as the Salts are extricated, then the Fever and Inflammation appear. Were it not for this Fever and Inflammation, we shou'd meet with no Signs of irregular Excursions of the Spirits;
and,

and, *vice versâ*, were it not for this Sluggishness of the Humours, we shou'd have no Complaints of Oblivion, Drowsiness or Impotence; so that as the Fever and Inflammation, or the Grossness and Inactivity of the Blood prevail, we meet with Excursions or Rests in the Spirits. It is then a *compounded Case*, agreeing in Part with an *Apoplexy*, and in Part with a *Phrenzy*, where Motion and Rest succeed each other alternately. A *Carus*, is a more remiss *Apoplexy*, as a *Coma* is a weaker *Carus*; and therefore it is not needful to mention their Symptoms. A *Pervigilium* is near a-kin to a *Lethargy*, for there are Signs of an inflammatory Disposition in the Brain, and a sluggish Humour in the Vessels; from all which it is evident, that the Diet in *Apoplexies*, *Coma's*, *Carus's* and *Palsies* must be the same; all the Juices are jellied, and want to be heated and attenuated; we must season every Meat and Drink with Spices, with hot and pungent Materials; they must be sparing in their Diet, because the Digestion is weak; their Wine and Malt-Liquors must be generous, but little in Quantity, and loaded with warm Ingredients, as, Marjoram, Sage, Lavender, and such like; Coffee and Tea are of great Use; roasted Meats are preferr'd to the boil'd, which are apt to dry, whereas the Juices are thickned already; Milk-meats, Pickles,

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Sours,

Sours, or Salt-meats are prejudicial, because they thicken the Juices; and for this Reason Brandy is a hazardous Liquor, as are all stronger Wines in any Quantity: This is all we are to expect from Diet in these Cases; but in *Lethargies* and *watchful Coma's* we are to vary somewhat from this Management; for as the Disease is a mixt one, so must we be careful, in a particular Manner, how they are nourish'd; the Diet must be diluting, cooling, and moist, for the Inflammation and Fever, and yet it must be attenuating for the Viscidity and Laxity; we must seldom amount above Bitters, for medicating our Waters, Ale, or Wines. Indeed in the *watchful Coma*, we may make Use of Ales or Wines, moderately strong; but in the *Lethargy*, they are best forborn; and Teas, moderately impregnated with the Ingredients, are most commendable. We must avoid all Things viscous and watry alone, Lemons, Pulse, Brandy, Milk-meats, salt Things, and actually cold, are dangerous; the Flesh they eat, ought to be farc'd with gentle Aromatics.

As we have in the last Paragraph taken a View of the Regimen proper in sleepy Disorders, we shall here treat of their Opposite, *viz. Watchfulness*. It needs no Signs, 'tis occasion'd by other Diseases, and is generally a Symptom of all troublesome Disorders. As in the sleepy Disorders, the
Spirits

Spirits were ill separated, and the Brain loaded with a viscid, tough Phlegm: In the Watchful ones the contrary happens, for the Spirits are too briskly mov'd, or too plentifully separated, or both: It may happen, and often does, in Diseases where the Spirits are much exhausted; however, the few there are, must then be hurried briskly through the Brain, though they are much wanted elsewhere. It would be spending Time in vain, to bring Examples; but let any one look into the Chambers of Persons labouring under Ravings in malignant Fevers, and the Assertion I have made will be readily acknowledg'd; where we find them restless for ever, and yet so feeble, as not to be capable of moving themselves from one side of the Bed to the other, without the Assistance of Nurses, upon whose Arms they feel as a Carcase, and a dead Weight. In this Case we are to consider, that the Blood, and all its Juices separated from it, are become acrimonious and very pungent, and therefore we must insist on such Drinks principally, as will temper and sheathe this Acrimony, which Work is compleated by Emulsions of Almonds, of the cold Seeds, or of Poppy Seeds: We are frequently oblig'd to stop here, because the Weakness of the Patients is so great, that we dare go no further; we dare not, in short, administer Opiates, for fear of thickning the Juices too much,

much, and, by so doing, putting a full Stop to the Circulation. We are to avoid all spirituous Liquors, because a small Quantity of 'em encreases the Acrimony, and large Doses would thicken the Blood, and make them sleep for ever : Cowslip Tea is a commendable Liquor, and, if nothing forbids, Lettice of all sorts is useful ; it is watry and smooth, and therefore dilutes and sheathes, which is all that is requir'd.

WE will, in the next place, examine into the Nature of *Convulsions* in their whole Extent. Some Authors distinguish between *Convulsions* and *convulsive Motions* ; they say Parts, to which Muscles are annex'd, and are shorten'd by an involuntary Motion, are convuls'd or contracted : And when these Parts have no Muscles but muscular Coats only, they say, they are troubled with *convulsive Motions* ; but as the whole Question is about Words, I shall wave it, and proceed to take notice of the different sorts of Convulsions and Convulsive Motions, and their Causes. An *Epilepsy* is known by an universal Convulsion, by an Abolition of both external and internal Senses, by falling upon the Ground, and frothing at the Mouth, the Parts are all drawn up, because the Muscles follow the Fate of the Nerves : If the Nerves are shorten'd, the Muscles to which they are annex'd, are also contracted ; they lose all Sense, because
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the Origin of the Nerves is affected, and a tumultuous Motion is rais'd there, by which the Spirits run irregularly into the whole System of the Nerves, and drain the Brain of them; so that none remain, for a while, to fetch in Intelligence, or carry out Messages: They therefore lose that *Equilibrium* necessary for the Action of Standing, and their Frothing shews how greatly the Reflux of Blood is interrupted by the Jugulars from the Contraction of the Nerves, that surround them and straighten them. *Saint Vitus's Dance* is variously describ'd, as well as referr'd; some tell us it is a Convulsion by which they halt, and their Hands tremble, so that they carry the Cup to their Heads in a ludicrous Manner; others say, they jump up, run up and down, dance, tumble, and rave a little, and upon this Head it is, by some of the most eminent Physicians, referr'd to *Madness*: *Halting* is a Symptom retaining to Contraction; where the Muscles of one Leg are shorter than ordinary, the Leg is drawn up, and they who are thus affected must halt: *Trembling* is an alternate Influx of Spirits into the antagonist Muscles, which therefore makes the Parts unsteady and incapable to hold any thing fast: To this irregular Motion retain Jumping up, Reeling and Faltring, and 'tis certain that a *Delirium* is often the Consequence of an Exhaustion of Spirits, by which they are disabled

abled from holding steadily to the *Ideas* represented, and who is he that takes a narrow View of Convulsions, will deny that their Spirits are exhausted upon a severe Fit.

THE *Spasmus Cynicus* or *Dog-Cramp*, is a Contraction of the Muscles of the Face, particularly when the Mouth is drawn to one Side; if the Muscles of the Temples and Jaws are contracted at one and the same Time, it is call'd *Trismus*; and if both Sides are contracted, it is call'd *Risus Sardonicus*; from *Sardoa* a Plant, which, as the Ancients dreamt, caus'd Laughter upon eating: These being Contractions, they need no further Explanation; a *Cramp*, call'd *Tetanus*, is a permanent and lasting Contraction of any Part; the Contraction is from a violent Influx of Spirits into the Muscle contracted; the *Continuance* springs from the Condition of the Fibres so contracted, where they become rigid and stiff; so that in this Disorder, Physicians can never act with Precision, without having Regard to the Spirits and the Fibres, at one and the same Time. A *Convulsive Cough* is commonly term'd a *Hooping Cough*, in which Children cough so violently, that they hoop or draw in their Breath with a hideous Noise, and in which they often fall back, as if they were choak'd; from the violent Irritation, the Lungs are strongly contracted or convuls'd, so that they hardly can be opened again to receive

receive the Air: I can't pass by this Disorder, without observing, that the Physicians seem to have rejected these Patients into the Hands of old Women; what Secrets do they not pretend to for the Cure of this Disease, than which nothing can be more severe; and I much fear the small Success that has hitherto been observ'd to attend us in the Cure, has given rise to this impertinent Encroachment. But if we would consider, that in Persons afflicted with this Cough, the Pulse is as quick as in Fevers, that there is a violent Irritation, that the Spirits are hurried with Vehemence into the Pulmonic Nerves, that the Cough is periodical, and that there is an irregular Bent, as well as a cacochemical Plenitude in their Juices; methinks, these Intentions might readily and effectually be answer'd: I say this upon Experience; because having had some under my Care, I have soon succeeded, after Bleeding, an Emetic, and two or three Cathartics, by administering a Spoonful, a Spoonful and half, or two Spoonfuls, according to their Age, of the following Mixture, thrice a Day.

℞ *Cort. peruv.* ʒj. *Aq. Lact. alex.* ʒxij.
epidem. ʒiij. *infund. per noctem, colatur.*
add. sal. vol. oleos, ʒj. *Tinct. Castor.* ʒss. *Laud. liq.* ʒss. *Syr. de mecon.* ʒj. *m. f. Mistura, de qua sumat cochl. j.*
(ij. iij. pro etatis modulo) ter de die.

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To this Class, Shiverings may be justly reduc'd, in which the antagonist Muscles are interchangeably mov'd; the Spirits now run first into a certain Tract of them, and then immediately into an opposite Road; somewhat lies on the Muscles pricking and galling them, and thus inviting an irregular Influx of Spirits; but also the Spirits themselves are put into Confusion by some odd Mixtures, they can't rid themselves of; it may be easily guess'd how deprav'd the Blood is upon the Attack of a Fever, its Proportions in Mixture are quite chang'd; nay, its very Principles become more concentr'd; this Symptom gives us the first Notice of a Fever, and it is so violent in some, as never to be surmounted. A dry *Asthma* is call'd a *convulsive one*, there is seldom a Cough or Spitting, unless when the Fit is over, it happens on a sudden, and disappears unexpectedly; the Expiration appears as if it were pump'd out, and the Inspiration is very difficult; it is increas'd or rais'd upon any sudden Passion, they complain as if they were girt around with a Girdle, and have a Pain in the bastard Ribs. Coughs proceed from somewhat pricking the exterior Membrane of the *Trachea*, and Spitting from somewhat extravas'd in that Passage; but in the Beginning of an *hysterick Asthma*, this is not the Case, and therefore

therefore they seldom or never cough or spit in the Beginning; for the Fit begins from an irregular Influx of animal Spirits into the Nerves, not into the Arteries, so that they are contracted first, and the Vessels being surrounded by them, there is no Room for Inspiration; but at last the Veins being obstructed by the Contractions of the Nerves, the Arteries spue out Serum into the *Bronchia*; and therefore when the Fit is over, there is a gentle Cough and Spitting. All Convulsions are sudden and unforeseen; no sooner is the Alarm given, by any sharp Particles in the Brain or Parts, but the Spirits make Excursions, and their Motion being in a Manner instantaneous, a Contraction is form'd and executed at once, and they are as suddenly unbent as contracted, and therefore the Fit disappears also suddenly; when there is a great Difficulty in lifting up the Lungs in Inspiration, as there must needs be when the Air and Contraction of the Nerves serving for lifting the Breast, are put in the Scales, this Elevation is all forc'd Work, and back again the falling of the Breast is like the Descent of heavy Bodies, every Instant accelerated, as in the Elevation they were every Instant retarded. All Passions are executed by the Spirits; if then hysterical Persons be mov'd, whether by any
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real or imaginary Cause, their Spirits are wound up, and set in Motion; and as their Scene of Action is in the Pulmonic Nerves, the Lungs are affected with this *Asthma*: The Sense of *Girting* arises from a real Bracing the Parts by a Convulsion of the inspiratory Muscles, and a Contraction of their Nerves; and from the Membranes being in like Manner affected, the Ribs are pain'd; that is, their surrounding Membranes are distended with Blood, for want of its due Circulation.

HICCUPS need no Description; but we don't all agree on the immediate Cause or on the Manner of its Production; if we only take a View of what happens in it, it will go a great Way to state the Case right. In a *Hiccup*, there is an accelerated Inspiration, and immediately the *Epiglottis* is shut, and this frames the Symptom; therefore while the Muscles serving for Inspiration are put into Action, the *Epiglottis* is on a sudden drawn down, and closes up the Passage of the *Glottis*; whether it be that the inspiratory Muscles, are on a sudden inflated by the copious Influx of animal Spirits into their Nerves, as is the Case in hot and bilious Constitutions, or that the Failure of Spirits in the Nerves running to the expiratory Muscles, as it happens in weak and dispirited People, occasions their Antagonists Motion, is little

to the Purpose ; for adding Force to the inspiratory, or subtracting Spirits from the expiratory Muscles, has the same Effects in convulsive Cases ; since, if Antagonists equiponderate, both are at rest, but if one loses, the other gains Weight, and exerts it self ; which of the two, I say, is the Case, still there will be a sudden Elevation of the Breast, and a strong Inspiration, and then the *Epiglottis* is contracted also ; probably from some troublesome Matter lodging on the Stomach, as is the Case generally speaking, and galling, and putting into Contractions the *Par vagum*, and, by Consent, that Branch of it also which is inserted into the *Epiglottis*. A *Palpitation* is easily known, and happens from a Concussion of the Heart, arising from its strong Contraction, by which it pushes against the Sides of the Ribs. In *Hysterical Women*, *Strangling* arises from the Contraction of the Lungs and *Epiglottis*, from the Spirits running into these Parts, and inflating the Nerves, and shutting the Trap-door, at which the Air should enter, and the Fear of it is justly grounded in these hysterical People, from what happens : In them, at the Navel, a Ball seems to rise, because the *mesenteric Plexus* of Nerves is strongly contracted and inflated, which draws the Bowels up in this Form : Here also Respiration is often abolish'd, because the Blood

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in permanent Contractions stagnates, and such Persons lie as breathless for Hours together ; from a lasting Contraction of the Lungs, their Blood either does stand still, or is in Danger of being quite congeal'd ; they lie void of all Sense, because there is a total Excursion of the Spirits from the Brain ; they often feel a *Creeping* all over them, as if some little Creatures were moving upon their Skins, from the gentle Contraction of the Nerves of the Skin ; and, in fine, wherever Muscles or Membranes are involuntarily mov'd or contracted, they betray Convulsions : So that our Business is now to enquire into the State of Humours in Convulsions ; and as they differ infinitely, no *Regimen* can be agreed upon, 'till that State can be ascertain'd. For my Part, I wou'd willingly have it awarded, that nothing should be call'd a *Convulsion*, which does not depend upon a strong Influx of animal Spirits into the Nerves and Muscles ; for where the Contraction is the Consequence of a Privation of Sufficiency, it properly retains to a Palsy, temporary or permanent, and at last we are forc'd to act very differently in these Cases, when we come to prescribe. An Example will illustrate the Point in Hand : A Person is seiz'd with the Small-pox, the Blood, and consequently the Spirits, are hurried into the minutest Recesses of the Body with Precipitation ; the Party
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under this Excess of Motion, is surpriz'd with an Epilepsy, which, under the Circumstances as they are here stated, is deem'd salutary; the Eruptions are generally distinct, or, at most, coherent, the Pulse is of that Kind call'd *chordosus*, where it feels like the String of a musical Instrument hard strung, and their Fever is high and burning: This Epilepsy is properly a Convulsion, because the Blood is thin and volatile, and it, as well as the Spirits, move forward apace; the Nerves are so fill'd, and their Contents frisk so quickly on, that the Muscles easily become tense and contracted: But on the other hand, we see some Persons ever and anon shivering severely, their Blood seems chill'd, nor does it betray any Signs of a Fever, which too often deceives unwary People into a dangerous Security; their Pulse is so low, as can hardly be felt, so that they frequently are cheated in affirming there is no Fever, not regarding (or not knowing) that the Quickness of the Pulse is the *Criterion* of a Fever. I would unwillingly call universal Contractions here, an Epilepsy; because, as the Blood is under a State of Coagulation, the Spirits must be very sparingly separated from it, and there are certain Grounds to suspect, that these Contractions are only Failures in some Nerves, and Excesses in others; so that the Muscles, the most supply'd with nervous

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Juice,

Juice, having no Weight in the opposite Muscles to balance them, rise into Action, or are contracted. From this View, confirm'd by daily Experience, it will plainly appear, how different the Diet must be in convulsive Cases; the former, in short, is the Effect of a Plenitude, while the latter proceeds from Inanition, or some Deficiency; so that while we labour to subtract in the former, we study to add in the latter. The same must be said in such Valetudinarians as are upon any (the least) Occasion subject to convulsive Disorders, as must be said in Persons actually under their Torture; for the Disposition and the Fit differ individually, and in Degrees only: Wherefore, Persons liable to Convulsions upon Errors in Diet, or the six Non-naturals, or actually labouring under 'em, must observe their Physicians Directions strictly. If the Cause of them is found to be excessive Feeding, or Nourishment too acrimonious, or both jointly, we must cut off a good deal of their Allowance, and allot them small Quantities of such Diet, as will obtund this Acrimony; we must forbid them the Use of strong Liquors; they must refrain from all Spices, salted Meats, or Pickles, and they must eat and drink sparingly: Let their Drink be Barley-Water, or Ptisan, chalybeat-Waters, and even pure Element it self: But when I advise Water-drinking, it must be observ'd,
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I speak of such as is exempt from the Impregnations of inconvenient Minerals and Metals. Too much Industry can't be us'd for the avoiding these, since every County has its peculiar Soils, pregnant with Salts and Metals, which would be very destructive of the Patients: For my Part, I should be surpriz'd to find a Town, whose Waters are very unwholsome, free from Distempers; and, in Fact, the Town of *Newcastle upon Tyne*, whose Bowels of the Earth are loaden with Coal-Mines, and whose Cisterns afford a *vitriolic Water*, as appears by the Redness of the Stones, the boiling their Meat red, and their changing with Galls, could not have continu'd healthful, if they had not been oblig'd to fetch their Water in Pipes from some Reservoirs not tainted with this Vitriol. And I make no doubt, but every County has its faulty Waters also, which is the Physicians Business to search into, as also to fit them to their Patients Case. But if, on the other Hand, the Causes of these Convulsions are found to proceed from a Deficiency, as it happens in such as are seiz'd after *Diarrhæa's*, or Evacuations, or immoderate Fasting, then we must study to administer all nourishing Meats and Drinks, without Regard to any other Circumstance; and here it is that Jellies, Soops, Milk-meats, Chocolate, Rice, Flummeries, or Broths high boil'd, that a

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Diet of Chickens, Veal, Rabbits, Mutton, or indeed any juicy Meat, is convenient to fill up the Vessels, but yet having Regard to the Distemper conjoin'd, if there be any such. It also often happens, that Convulsions are attended with a Sourness, or Bitterness at the Stomach, and then the two Causes above-nam'd are not in the Question; for as the first must feed upon Meats farc'd with the poignant and aromatic Herbs, and for their Liquor should drink *Bath-Waters*, or strong chalybeat-Waters; so those with bitter Stomachs must avoid this *Regimen*, and live upon the cooling Plants, as Lettice, Spinage, and such like, upon Milk-meats, and must drink light Chalybeats, and even pure Element. Persons subject to Convulsions from these different States just mention'd, are Valetudinarians with a Witness, but it would be a strange Paradox to prescribe an uniform Diet to them all; this is impracticable: It would be equally just to prescribe one Remedy for every Disease, as one Diet for every unhealthy Person; and a Physician would be as blame-worthy for not enquiring into the State and Condition of a Valetudinarian, as he would if he neglected that Enquiry when sick. A Treatise aiming at this *Chimera* might be term'd, *An Essay on short Life and Sickness*, for who are they labouring under a *Scurvy*, for Example, that must always insult on one and the

the same Regimen? No, a Disease, whose Name is one, proceeding from different Causes, cannot require the same Diet, and by Consequence, the Disposition to that Disease, by which such are term'd *Scorbutic*, is not univocal; so that if the Disease can't be treated always alike, neither can the Disposition or Habit leading to that Disease; and, as I have nam'd the *Scurvy*, I shall descend next to it, and confirm what I have said further.

THE *Scurvy*, as it is treated on by Authors, and particularly Dr. *Willis*, is so universal, that there is no Symptom which can be nam'd, that may not be reckon'd a Branch of it; as will easily appear upon summing up the Signs of a *Scurvy*. In the *Bowels* it produces the following Symptoms, want of Appetite, Vomitings, a Diabetes, Fluxes, or Costiveness, Inflations, Colicks of various Kinds, and very violent; in the *Breast* it causes Palpitations, Faintness, Spittings of Blood, Consumptions, Asthma's, and Coughs; in the *Head* it introduces Vertigo's, Apoplexies, Palsies, Convulsions, Salivations, Watchings, Melancholies, Pains, and Stupors; in the *Body*, Rheumatisms, Atrophies, Spots red or black, Gouts, and the Urine is pale or red with Salts sticking to the Pot, and often a Crust at the Top. These and many more Symptoms do *Scurvies* produce. For if the Fer-

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ment of the Stomach be more or less eager, or more or less viscid than usual, the *Stimulus* is alter'd, the Hunger is abated in Proportion; and if the *Acid* there be very fretting, it gives Pain, or however invites an Influx of animal Spirits into the Muscles of the Abdomen and the Stomach, and then a Vomiting is produc'd; the same Sort of Humour, whose Seat is in the Guts, vellicates them and the same Muscles into Convulsions, and Humours flow plentifully thro' the Glands of the Intestines, and then Fluxes ensue. If this sharp Humour prevails in the Blood, and becomes very disagreeable to the Kidneys, by stimulating their Ducts too much, then the Blood corroded and thinn'd, runs that Way with Violence, and its thin Parts are too plentifully secreted, and *Diabetes* ensue; but if the Guts are render'd stiff and rigid, and if the *Fæces* are thicken'd, both which Effects are the Consequence of an Acid too earthy, then the Scorbutics are costive: Inflations are the Effects of Humours fermenting; if a Viscidity prevails, and that is commonly the Consequence of an Acid, the Bubbles, we observe in Fermentations, rise; but being tough, don't break, and occasion this Bloating and Fullness in the Belly, and Colicks also, which are more or less violent, as the Bubbles are more or less tough, or are more or less distended. If we trace the Scurvy into the

Breast,

Breast, we meet there with Palpitations, because the Heart is strongly contracted, from Convulsions, proceeding from sharp Humours in the Blood and Nerves; with *Faintnesses* from Stagnations in the Heart, produc'd by this Acid in the Blood; with *Spittings of Blood*, from an Erosion of the Vessels by this strong Acid; with *Consumptions*, from an Abscess generated in the Lungs, by Reason of Stagnations, occasion'd from the Coagulations of the Juices, and the Parts inflaming thereby, and coming to Suppuration more or less suddenly, as the Humour is more or less sharp. *Asthma's* are various, that which attends Scurvies is a Difficulty of Breathing, without much, if any Cough at all; it may rather be call'd a Straitness of the Breast, which grows upon Action, and depends on the slow Motion of the Blood, and a Contraction of the Muscles of Inspiration, so that it seems to be a mix'd Case, compounded of a Stagnation of the Humours there, and a tonick Convulsion of the Muscles of Inspiration: However, sometimes *Coughs* are produc'd when this acidoviscid Humour ouzes plentifully into the *Trachea* or *Bronchiæ*; 'tis indeed an Humour too much fitted for a Cough, and a lasting one too; for if the Viscid be once thrown out of the Mouths of the Glands, it relaxes them, and fits them to receive such Humours for ever after. If we trace this
Disease

Disease into the Brain, we meet with *Vertigo's*, which may have their original Cause in the Stomach, for nothing is more common than *Vertigo's* to cease upon giving a Vomit, which throws up a vast Quantity of four Mucus, that lodg'd there, the Sour twitches the Membranes of the Stomach, and the *Par Vagum* is put into Contractions, and as this Contraction affects the carotid Arteries, (the *Par Vagum* communicating a Branch to them) and in some Degree accelerates the Course of the Blood in them, as it happens in straitned Channels, where Liquors run the faster, so that more is heap'd up in the Brain than is reconvey'd : Upon this Account the Blood-Vessels running along the Bottom of the Eye, are distended, and move the *Retina* out of its Place at each Pulsation, and occasion a *Vertigo*. *Apoplexies* and *Palsies* are Effects of stagnating Juices, the Blood and Spirits in some *Scurvies* are so viscid, that they are unfit for Motion, and then a partial Stagnation produces a Palsy, and a total one, an Apoplexy. *Convulsions* are a contrary State to Apoplexies, in these the Spirits stand still, in *those* they are hurried too much; but whether these Contractions are always an Effect of too swift a Motion of Spirits can't be affirm'd, because any disagreeable Pungency, lodg'd at the Root of a Nerve, may cause its Contraction, and probably in some *Scur-*
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vies this is the Case. Scorbutic Persons generally *spit* much, their Spittle has a disagreeable Taste, and causes them often to spit it out, which frequently brings on an Atrophy. The Occasion of this Spitting is the same as of a *Diabetes*, the Humours circulating thro' those Glands irritate them to a more plentiful Secretion; nothing more disagreeably twitches the Vessels than a harsh Humour: This is discernible in Allom, and in Mercurials, after which a Spitting is always rais'd for a while, or a long Time. The Patients, at this Time, complain of this odd and harsh Taste in their Spittle, so as to be nauseous to them, and they are even afraid to swallow it, lest they should vomit, it being of so disagreeable a Taste to them.

Watchfulness is a Sign of some Tumult in the Brain, but whether this arises from a Hurry in the Spirits, or a Trembling of the Nerves, is a Dispute, which is best determin'd from the Consideration of the State of Blood at the Time being, which may be over-heated or over-chill'd. The mopish Condition some Scorbutics are under, and their continual Fears and Jealousies, attended with a Coolness of the Parts, denote, as fairly as can be expected, Coagulation or Viscidity of Blood: The Blood is made thus viscid, by the Acid abounding, the Parts are made rigid from this Acidity, and the Brain admits of few Spirits; but what are separated,

rated, move in certain Tracts only : *Ideas* follow the Proportion of Impressions, and they are Consequences of the Motion of the Spirits, and Tremblings of the Nerves : As therefore the Spirits are few in Quantity, but the Nerves are become rigid, the Impressions, which are few as the Spirits are, are long retain'd : All that can be said of Melancholy, is, that it is a Passion of Mind attended with little Action, 'tis sluggish, stupid, slow, and lifeless, whether we consider it as a Passion, or as a State of Circulation of the Fluids thro' our Canals. *Scorbutic Headachs* are produc'd from Humours impacted strongly into the smaller Vessels, and distending the Membranes fix'd to the Bones : The glutinous State of Humours disposes them to stand still, or, at least, to fix upon the Parts, and if the Pains are internal, they are hard to take off ; but if they are external, Fomentations, by their volatile and warm Parts, dissolve and attenuate the Humour, and set it in Motion. If we consider the Symptoms it produces on the Surface of the Body, there we find rheumatic Pains, which wander from Place to Place ; when the Vessels circulate our Fluids, the Salts, if many, prick their inner Surfaces, and, in Proportion to their Acuteness, the Pain occasion'd is greater or less. *Spots* are Extravasations of Blood, which happen from the Erosion of some minute Vessels ;

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Vessels; and the Colour of them denotes the State of Humours. *Atrophies* are Deficiencies of Humours; if the Blood is too sharp, it becomes colliquative, and being thin and fretting, runs off at every Passage, by Stool, Vomiting, Spittle, or Urine: And to confirm the Sharpness of Humours, view their Urine, and see what Crust is at the Top, and what a Sediment at the Bottom: 'Tis plain the Serum is stock'd with more Salts than it can well dissolve, and these Crusts and Sediments are but *Crystals*. From this Anatomy of the Scurvy, it is plain, that a scorbutic Blood is a Blood abounding in *Salts*, whose Nature it behoves the Physician to distinguish well: Salts of all Kinds will irritate, but all of them won't thicken the Blood: If the Blood be too gross, or too thin, 'tis made so by these Salts entering into the watry and oily Parts of it; and as the Quantity of Salts has such general Effects upon the Mass of Humours, therefore the *Scurvy* abounds almost every where, not in Northern, but Southern Climates also; for in Northern Countries it is plain, that their Diet abounds with Sea-Salt, or however with some mix'd Salt, in which the Acid has the Dominion; and in this Case the Blood is chill and apt to stagnate in the smaller Vessels; and as it is saltish, it irritates the sensible Parts into Contractions: This, I say, is the ordinary *Scurvy* we meet with
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in the Northern Parts ; but yet this Scurvy is not so common, as to exclude a corrosive State of Humours even in *England* ; for we daily meet with consumptive and hectical Persons, whose Stomachs plainly demonstrate an abundance of sour and corrosive Humours lodg'd in them, as appears by their belching a hot sour Humour, which frequently gives them the Heart-burn ; and the Free-living they indulge themselves in lays a certain Foundation for this Change : That Acid, which before was an earthy one, becomes corrosive, and raises Hypochondriacism and all its Attendants. Besides this *Scurvy*, there is another, more observ'd in the warmer Climates, where the Blood becomes too saline, it is digested into a pungent volatile Salt. None make more use of *Olio's* than Foreigners, and the warm Ingredients they are mix'd with, are but so many volatile Salts, which are with great Gust thrown down into the Stomach, and there digested and hurried into the Blood : Salts are always pungent according to the Figure they are of, they prick the Surfaces of the Vessels thro' which they circulate, and therefore will twitch them into Contractions ; and these first dissolve and attenuate the Blood, and then, if they abound, they give Uneasiness to the Vessels ; 'tis true, of the two, volatile Salts are the least dangerous, but yet Blood render'd thin by them, is sub-

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ject to Bleedings, to Scurfs, to Hæticks, to spasmodic Pains, and many other dangerous Disorders: From whence 'tis worth Enquiry, how these several States of Humours may be alter'd with Diet: In general it may be affirm'd, that Salts are best dissolv'd in Element: Water is the proper *Menstruum* for Dissolving them all; and therefore in any *Scurvy*, Water-drinking is commendable; but then it ought to be consider'd, that some of the Properties of Water are not convenient in them all, without Caution: So in the *Cold Scurvy*, drinking cold Water may set the Salts loose, but may coagulate the oleaginous Parts, and freeze the watry, so that more Harm is done than can be balanc'd by diluting the Salts: We experience this every Day in such Constitutions, where the Water drank cold, gives the Valetudinarians the *Colick*, bloats their Skins into *Anasarca's*, and obstructs their Bowels, gives them Jaundices, and curdles their Chyle into caseous Concretions; the Blood being already viscid, the Cold prevails over the diluting Quality, and they are greatly damag'd thereby; but Water qualified with heating and obtunding Particles is certainly of Use; it dilutes and sheathes: For this Purpose, *Bath-waters* drank at the Fountain-head are salutary; they eminently correct the Acid by the Steel and Sulphur they contain, and insinuate themselves by their

their Heat, as well as dilute those Salts, and carry them out of the Mass by the Pores, the Kidneys, and elsewhere; but in the *Scurvy* proceeding from too acrimonious Salts, from Salts too much concentrated, from corrosive Salts, the *Bath*-waters ought to have no Share; 'twere better for such Patients to confine themselves to pure Element, without Additions, or however without such as would heat and accelerate the Blood's Motion; Chalk-water, or Steel-water, if light, are useful in this Case, because they dilute and alter the Acidity by which so much Harm is done; but where it is plain the Blood is too volatile, as we guess by the *nidorous*, bitter and salt Belchings, then Water alone is the best Diluter; and if any Addition is allow'd, 'tis such as will make it into *Lemonade*: This *Scurvy* our Sailors labour under, when they are cur'd by eating Lemons and Oranges, which they find so plentifully in the *Streights* and elsewhere. And as the Liquors of *Scorbutics* must vary, so must their Diet; for in the *low Scurvy*, where the Mass is coagulated by the Acid, we give them Orders to feed upon Sallads and fresh Meat, farc'd with *Nasturtiums*, Horse-Rhadiſh, Mustard-seed, Marjoram, Thyme, Sage, and such-like. In the *hot Scurvy*, where the Blood is near the Condition of being dissolv'd by too acrimonious an Acid, we dare not advise these hot
Spices

Spices or Herbs, for fear of raising Tumults and Commotions ; but yet bitter Plants which are not eminently such, and which are also watry, such as Dandelyon, and all the watry Tribes of Bitters, may be administred, because they correct the Tartness of the Blood calmly ; they dilute and alter its Texture without encreasing the Thirst and Heat. In the *Hot Scurvy*, where the Mass is too much thinn'd by its volatile Salts, * the Salads should consist of Sorrels, Barberries, and four Fruits : How different then is the *Scurvy* from itself? The Word is *equivocal*, and is us'd in a different Sense by the best of *Authors*. It became a Fashion, and is yet a sufficient Answer to Patients, when they enquire into their Ailments, to give this Return to a troublesome Enquirer, that their Disease is the *Scurvy*, they rest satisfied, that they are devour'd with a Complication of bad Symptoms ; while the Physician per-

* The Symptoms in the Salt Scurvy may be the same as in the Cold, but they are produc'd in a very different manner ; for Example : The *Asthma* in this Scurvy, arises from the Rarefaction of the Mass and Distention of the Vessels ; so the Air-Chamber is lessen'd, whilst the Passage of the Lungs is impeded in the Cold Scurvy from Stagnation and Accumulation. And some Salts are attractive, others repulsive, notwithstanding their Surfaces : For if Acids and acid-Salines consist of plain Surfaces, and are therefore attractive, what Reason can be given that volatile Salts of Human Blood, being rhomboidal, and of Hartshorn, being Parallelopipeds, should not occasion Cohesion as well as acid Salts, which are Cones, or Sea-Salt, which is Cubical.

haps is in dispute with himself how he will treat his Patient, nay, and perhaps is watching to find what Diet agrees or disagrees with them: We all know the feeble Twigs of Discovery of the Cause by the † *Juvantia* and *Lædientia*, and yet we must have Recourse to them, where the other distinguishing Signs are wanting, or fail us. From all which it is evident, that the Diet of *Scorbutics* is never uniform, but must be govern'd by the Knowledge of the State of Juices then reigning; and as that State is not to be determin'd, but by the Knowledge of the several Causes, it would be empirical to affirm, that *Scorbutics* must always insist upon the same Diet, since they have an equal Chance of being prejudicial or benefitted by this Uniformity: How then can a Man so fraught with Learning, as Dr. *Cheyne* is, go on to perswade the World into an Opinion, that the Scurvy is always the Produce of Salts that coagulate or obstruct, and make a glewy Serum, when he surely knows this is not constantly the Case? But above all, it is very surprizing, that he should here recommend a vegetable Diet, and the Reason for using it is yet more so; the Diet recommended is often of the same Nature with the Juices, and no volatiles Salts can be produc'd without a Change made in the Plant

† What helps. What hinders.

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by Absorption or Putrefaction : Surely if the vegetable Diet be glewy (and many he recommends in the Case are such) following his own Sentiments, he would render the Juices more deprav'd ; and, if the Rules of Chymistry have any Force, the Chymists themselves do acknowledge, that the Fire changes the Texture in some Circumstances, and particularly in producing the Salt mention'd in the Manner it is done ; this Truth is in Part allow'd by him in *Brandy* and *Lime*, because in that Case it serv'd his present Occasion ; and moreover the Doctor mentions the urinous Salts as the Occasion of the Scurvy. I doubt whether upon Enquiry it will be found, that mixt Salts, as such, are the Cause of the Scurvy, but as the Acid prevails, which is cur'd by making it *urinous* : This Assertion is too plain to be deny'd, and too easy to be explain'd.

IN *Madness* there is a Rage and Raving, attended with a Fever, or a feverish Disposition : In bilious Persons, where the Blood and Spirits move on with a certain Precipitation, their Actions answer their Idea's ; and *these*, the Influx of Spirits, which when they exceed the natural *Momentum* in a high Degree, they cease to be governed by Reason. It must be confess'd, we know no further of the Union between the Soul and Body, than that if there be an harmonious Proportion between the Fluids and

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Solids,

Solids, our Senses are vigorous ; but are disturb'd, where they fall short of, or exceed the natural Constitution. 'Tis not easy to determine, how far some Mens Nerves will bear stretching or relaxing, before uncouth Effects will ensue, Experience alone instructs us in this Affair ; however, it is very observable, that mad Peoples Nerves are strongly extended, and are very elastic ; the Strength they abound in, and the little Damage they receive from the severest Weather, plainly shew, that they are become almost inflexible, or, however, that they are at the Tip-top of Elasticity ; the Pulse also confirms this, which is swift and great.

BUT in *Melancholy*, the contrary happens, the Idea's are unconnected, but the Pulse is weak and slow. I have already given the Reasons of this Disease under the Paragraph of the *Scurvy*, and shall not here repeat them. Let us then descend to the particular Diet of Use in these Two Cases: In *Madness*, we must be sparing in the Use of Victuals, for *Fasting* supplies the Want of Evacuations, which are used repeatedly in this Case, as any one may see, who consults the Files of the Physicians practising on this Disease; and for the rest, it must be cooling and moistening, and therefore Water-drinking, Barley-food, and all Grain made into Food, is the most convenient ; Lettice, Spinage, and cooling Sallads are commend-
ed ;

ed ; they must shun all strong or fermented Liquors, all Salt Meats, all Spices, and all Victuals which are flatulent, and in this Manner the bilious Humours will in Time be temper'd and alter'd, and the Fibres will be unbent. But, in a fullen Madness, where there is a contrary State of Humours, the Diet must be chang'd : Indeed, as there is a Tumult, or some disorderly Motion in the Brain, the vinous and fermented Diet, if strong, is to be forbid ; but still the Diet must be moistening, and gently attenuating ; wherefore they may be allow'd small Wine, or small Beer alter'd with gentle Bitters, in a moderate Quantity ; their Diet may be moderately farc'd with Aromatics, the Preparations containing Centory, Fumitory, Calamus Aromaticus, Galangal, Cloves, Cassia lignea, Antimony, and Steel, being deem'd specific in this sort of Raving, plainly shew us, with what Ingredients their small Liquor should be impregnated, and what their Meats may be farc'd with.

IN *Head-achs*, the Causes vary extremely, but three Causes of it are the most common ; to wit, a Plenitude, a bilious, and a phlegmatic Blood. In a full Habit of Body, where the Quantity only exceeds, Care should be taken to abate a proper Quantity of Victuals, and particularly of Drink, at every Meal. In our Temperaments, there is no standing still, they vary some Points every

every Day, and if the Quantity of Humours be too many for the Vessels, they lose their due Elasticity, and the Blood its Consistence; for as the Force of the Vessels is decreas'd, the Blood will be but lazily mov'd on, and will then contract a Thickness, and become obstructive; the Disease will then become compounded of a Fulness, and an Obstruction, and we must not only subtract a certain Proportion from our Meals, but we must also have Regard to the Obstruction, which is a Creature of the Excess; and therefore we may allow of Aromatics and Spices in their Diet, which must, however, be also spare, and this Obstruction is known by the Colour of the Face, then turning pale, which before was a lively red.

IN the *Bilious Head-achs*, the Pulse is quick and strong, and the Patients are exceeding warm: In this Case, the Salts are pointed enough to tickle the inner Surfaces of the Vessels, and thereby accelerate their *Systole*, but the Blood is yet viscous enough to stick in the minutest Arteries; and if a Parcel of such a Blood chances to stand still any where, and the Vessels of the Extremities are small enough, or rather too small, for such a cohesive Liquor, the Salts soon extricate themselves, and twitch the sensible Membranes into painful Spasms: It behoves the Physician strictly to enquire, whether the Pain be internal or external, or both; because

because greater Haste is requir'd, and quicker Dispatch is to be made with an internal Head-ach; it threatens Madness or a Phrenzy: View their Eyes, if their Veins are swoln, and if their Memories or Understandings are so affected as to be forgetful, or duller of Apprehension than usual, it is very certain that the Seat of this Pain is on the *Meninges* of the Brain: But if none of these Signs appear, and the Head, upon combing or rubbing, feels painful, then the *Pericranium* only is the Seat of it, and we need not be so apprehensive of the Consequences. In this Head-ach, the Diet and Drink must be cooling and thin; thin, to dilute the viscid State of the Bile, but cooling, to correct the lixivial and nitrous Salt, which Bile abounds with. Water-drinking, whether elemental, or lightly chalybeate, is commendable, it washes and thins the Viscidity, as well as keeps the Salts at a proper Distance from each other; and *Sorrel*, *Lemons*, *Oranges*, and all the gentler Sours correct the lixivial Salt, and turn it into a neutral: Our Sallads and Sauces ought to consist of them; and as this Head-ach is an Effect of Bile lodg'd, *this* being wash'd off, thinn'd, and alter'd, *that* must, of Course, cease.

IN a *Phlegmatic Head-ach*, the oleaginous Parts of the Blood are thicken'd up with an Acid, and a good deal of Earth,

with some Water interspers'd; these are discover'd by the Dulness of the Pain, and Weight upon the Head, and the Temperament is cool, nor have they any Thirst upon them. All Sense of Weight proceeds from some Degree of Grossness, for Nothing stagnates, till it becomes too gross for passing the Diameters of the Vessels; if the Motion of the Fluids be too sluggish, they thicken of Course, and more particularly if their Mixture be of such a Composition as is naturally cohesive: Such is a phlegmatic Blood; its Parts are heap'd up together, by the Figure and Hardness of the Salts entring the soft and globular Molecules of the Oil, by flatning them, and joining two into a large one, and as they grow larger, they attract each other, and others stronger, and thus the whole Mass becomes gradually cohesive. Destroy the original Cause of this Cohesion, and we alter this phlegmatic State, and abate all the Symptoms depending upon it: That is, if we administer *Aromatics*, such as Thyme, Rosemary, Marjoram, Sage, or Savory; if we order them *Pungents*, such as *Nasturtiums*, Horse-Rhadiſh, and Mustard-seed in their Liquors or Victuals, these containing Particles of an opposite Nature to this Acid, will insensibly re-dissolve the congeal'd Fluids, and set them free, and disengage them from the Parts they have taken up their

Abode

Abode in. I have not meddled with the Diet in such Head-achs as proceed from some Cause fixt in the Fibres ; this Cause may be irremediable, and the Diet can have no greater Effect than Medicines, which have no Power to remove it, only where we see no Hopes of relieving the Original, we ought to relieve the most urgent Cause, and this may be effected as well by Diet as Drugs.

A *Vertigo* or *Giddiness* is easily known; but its Causes are numerous ; I mean its remote Causes are not easily fish'd out : It is evident that the feverish and the phlegmatic are equally affected ; for how usual is it with Persons under Fevers to complain, especially at the Beginning, of their Brains turning round, if they only lift their Heads up from the Pillow ; and Persons of a low and dispirited Habit, whose Stomachs are stuffed with Phlegm, complain of it frequently : So that whatever immediate Cause it may have, or however that may always be the same, the remote one evidently differs ; let the Dimotion of the Artery happen how it may, and the Removal of the *Retina*, from thence out of its Place, yet the original States must be principally regarded by Diet ; for in *Phlegmatics* we must incide and attenuate ; by these Qualities the Juices will be rendred more fluid, and become less liable to stand still any where ; by these Properties the gross
Phlegm

Phlegm taking up its Abode on the Coats of the Stomach, will gradually be melted down, and will make Part of our Nourishment, in mixing with our Victuals, and running thro' the Lacteals to our Blood: Whilst it sojourn'd in the Stomach, it four'd, and twitch'd the Membranes of that Part and the Nerves into Tremblings, which being communicated to the Brain gave it a tumultuous Motion, and affecting the optick Nerves, as has been already explain'd, occasion'd a Dizziness: In this Case therefore Bitters, Pungents and Aromatics are highly necessary, such are Tea, Coffee, Marjoram, Sage, Lavender, Horserhadiſh, Mustard-Seed, and the like, in Teas, Liquors or Meats. But in the *Giddineſs* rais'd from the warmer States of Blood, we muſt change our Views; the Giddineſs then depends on the too rarefied State of Juices. When the Veſſels are ſtretch'd beyond their Power they loſe their contractile Force; and by conſequence the Juices are not thruſt forward as uſually: This Power is ſoonest loſt where the Diameters of the Veſſels become leſs; for as the Arteries are conical, their Thickneſs decreases in a regular Proportion as they approach nearer to the *Vertex* of the Cone; and as the Thinneſs of the Coats of an Artery in one Place more than another, is the Reason of their burſting ſooner

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in one Place than another, the same Thin-
ness also holds good for their losing their
Elasticity at the Extremities sooner than
else-where; and moreover as there is ano-
ther Cause of Vessels bursting, namely, the
Height of Liquors in them, so that the
higher any Liquor rises, the sooner is the
Vessel burst under that Weight, so the
nearer we approach to the *Vertex* of the
Cone, the more Pressure there is upon its
Extremity; upon these Accounts, to wit,
the Thinness of the Vessel and the Height
of the Fluid, it happens that the capillary
Arteries sooner lose their Elasticity than
any others: This being a Truth well prov'd
by Experiments, it follows, that when
the small Vessels are over-stretch'd, if they
don't crack, they however lose their con-
tractile or systaltic Force; and the Blood
moves on then by its Weight only, and is
therefore subject to congeal and stick close
to the Walls of the Vessels, and so stand
still; But the other Parts of the Vessels not
having lost their elastic Power, throw
the preceding Fluids with Force into these
small impassible ones, and they extend
themselves on all Sides to receive them;
this Distention lifts up the nervous Fila-
ments of the *Retina*, which receives the
Pictures of Objects; that is, it makes Things
appear in that Place where they are not,
and when the Arteries are in their *Systole*,
they

they appear where they really are; this changeable Condition of the Pictures appearing one while in one Place and anon in another, is call'd a *Dizziness*, arising, as *Bellini* observ'd, from the Dimotion or Displacing of the *Retina*. If we correct this State of Motion and Rarefaction of our Fluids, we shall find this Giddiness to disappear, or however to lessen; and as this cannot be done, without having Regard to the Degree of Rarefaction, I refer the Reader to what has been said concerning the Diet in Fevers: How soon does a Bleeding take off a *Vertigo* in Fevers of the warmer Species? And an Abatement of the Rarefaction by cooling and diluting Diet, has an analogous Effect.

IN a *humid Asthma*, two Things are to be consider'd, to wit, the *Interval* and the *Fit*; these Shortnesses of Breath in the *Interval*, depend on an habitual and increas'd Secretion of ferous Humours into the Vesicles of the Lungs, spued from the Glands thither; Secretions are in Proportion to the Orifices of the secretory Ducts; and as the Glands of the Lungs, by being constantly soak'd in watry Liquors, are become relax'd, they are larger than in a natural State, and therefore they separate more Liquor into the Vesicles; insomuch that the Quantity extravas'd into them, and hourly thickening by being expos'd

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expos'd to the Air in Inspiration, presses much upon the circulating Vessels, and sometimes stops their Circulation; in this Supposition the Parts begin to inflame, and this Inflammation produces a Fever, and this we call the Fit of an *Asthma*; this short View will lead us into the Reasons of the different *Regimens* to be us'd in *Asthma's*, according to the Times of the Disease; for in the *Interval* they breathe short, they cough and spit much, and the Phlegm is viscid and tough, and not easily pump'd up; this repeated *Nisus* to cough invites a constant Influx of Humours into the Lungs, and it is very observable, that the Smoak of Towns is troublesome enough to those Asthmatics whom we call *Phthisical*, but a clear country Air gives them Relief: The Shortness of Breath depends on the little Room left for Inspiration, the Vesicles being fill'd, and the *Bronchia* being loaden with Phlegm, do not suffer the Air to enter enough for inflating the Lungs; however, upon Spitting much, the Room grows larger, and their Breath is easier, which shortens again upon any Stoppage, or upon hazy Weather's coming on; for this stops our Pores, and the Steams which would fly that Way recoil into their Lungs, and encrease that Secretion; The Air of the Town is very impure, and it can't be suppos'd to blacken our Pewter,

ter, without working upon so tender a Part as the Lungs; in short, it irritates the Wind-pipe eminently, and the Glands secrete plentifully upon every pumping Bout, so that it is common with old Asthmatics of Fortune, to retire out of the Smoak of the Cities, because they are choak'd up: In this Supposition it plainly appears, that the Lungs are relax'd, and that the Blood-vessels abound with a vapid Serum; upon which Account the Blood must be alter'd, and the Texture of the Lungs must be render'd firmer: Such Meats and Drinks as will attenuate and dry, are here conducive; when the Juices are attenuated to a certain Pitch, they will move forward in the circular Motion with the greater Vigour, nor will they drop so much Liquor into the Lungs, and thus some Share will be lessen'd. But those warm inciding Materials do also contract the Glands, in as much as they evaporate those Humidities in which they are soak'd and enlarg'd. Therefore in *Asthma's*, strong Wine moderately taken, and if medicated with Sulphur, Hyssop, Elecampane, Hedge-Mustard, Thyme, Fennel, Caraway-Seeds, and such like, is very commendable; it digests the Phlegm, pumps it up, prevents its breeding, promotes Perspiration and Urine, and gives them much Relief; what they eat ought to be little in Quantity at
once,

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once, and of such a Nature, as may be moderately warming; Spices are always of Use to Asthmatics, provided they don't indulge in their Use, for no Conclusion can be drawn from Degrees; a little may be useful, but a small Excess may prejudice; and Incisers moderately us'd help to pump up the Phlegm, but if they are us'd too much, they exhale the Humidities, and thicken this Humour so that Blood will be brought up with that Force which is requisite to bring up the Phlegm. Thus must Asthmatics be treated out of the Fit; but whenever an irregular Life, or Debauches, catching Cold, or too much Exercise, have rais'd a Tumult in the Blood, so that it stops in the pulmonary Vessels, and inflames the Part, as also the adjacent ones, then this being immediately hazardous must be reliev'd; all we can do, is to treat them as we have already said in the Paragraph of Inflammations, till the Fit is over; that is, we must dilute and cool.

AN *Incubus* or *Night-Mare*, is a Sense of Load upon the Breast whilst a-sleep; and is suppos'd to proceed from a Stoppage of the Circulation, either in the Nerves, or Blood-Vessels; or a Convulsion on the respiratory Muscles: They who feel a Load and Weight on their Breasts upon the Intermission of their Pulse whilst awake, may be said to be hagg-ridden: The Ideas in the Night,

Night, and the Apprehensions attending this in the Day, seem to bear a near Alliance to each other ; and moreover, my self having been often attack'd with both these Disorders, I have felt the same Impression and Disorder upon my Pulse upon awaking, as I did when I have been seiz'd in the Day-time with an Intermision of my Pulse, which I was seiz'd with by drinking bad Wine : The Intermision might proceed from the Spirits as well as the Blood, having at the same Time an unusual Weight on my Head, and Startings on my Tendons, along with a Despondency ; and then the Intermision was a convulsive Motion rais'd from the Acidity of the Juices, for my Stomach was then infested with acid Ructus ; and volatile Spirits, taken in a plentiful Manner, and diluted in Water, took off the Intermision with all its Attendants. Since then it is evident, that this Disorder often depends on the Spirits, they being variously affected must indicate different Diets, as the State they are under is various ; doubtless in warmer Climates or Constitutions, where Persons are subject to this Disease, the Cause squares in all its Changes with Convulsions properly so call'd, and then the Diet must be such as is there mention'd : But in the common *Night-Mare*, 'tis equal, as to the *Regimen*, whether it proceeds from a Stop in the Blood

Blood or Spirits, for in this Case the Diet ought to be warming, attenuating and cordial: Strong Wines, therefore, moderately taken, or in such Quantity as to refresh, are the most convenient Liquor to be us'd; and the Victuals should be well stock'd with Spices and Aromatics; and here Broths in which such warm Ingredients are gently boil'd, are the most proper Food; they enter the Blood very quickly, attenuate it, afford Spirits in an Instant of Time, and set the Blood and Spirits in Motion: This Cordial Vertue in warm Liquors appears upon Faintings, where they revive as soon as they are swallow'd; some of the Particles immediately put the *Papillæ* of the Tongue and Stomach, and the Nerves, whose Extremities they are, into Vibrations and Undulations, which set the stagnating *Fluidum Nervorum* into Motion; and they do not only afford this present Relief, but their reviving Particles are carried into the Vessels, where they once more attenuate and set in Motion these stagnating Fluids. I must, however, observe to you, that these *Night-Mares* are not always produc'd in the Manners abovesaid; for a large Meal at Bed-time along with a supine Posture in their Sleeps, will bring them on effectually: To hinder the Descent of Blood into the lower Arteries, or indeed to hinder the Circulation in the lower Parts, is a Weight laid
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upon the Vessels, and is sufficient ; and as a supine Posture lays the Weight of a large Supper directly upon the descending Trunks of the Vessels, the Circulation in the lower Parts is in a great Measure obstructed ; wherefore the whole Mass circulates for a Time in the upper Vessels ; this Interruption fills the upper Vessels too much, and we know moreover, that whenever the Blood is broke of its regular Course, it rarefies and ferments, as we perceive in so small an Interruption as is occasion'd by the *Pericarpia*, and upon this Account also the Fulness is augmented ; now when the Vessels are become too tense, they lose their Elasticity, and Spring, and the Fluids run lazily on, or not at all, for a while, till this Resistance is conquer'd, and thus also *Night-Mares* are occasion'd ; here we should avoid all flatulent Diet, and be moderate in our Suppers, since they who will offend, must suffer.

As for a *Defect* of *Memory*, we observe both the dry and the moist Constitutions to be the Occasion of it : Old Age and Paralytics testify this Assertion ; where in the first the Fibres grow rigid and inflexible, and in the latter, soft, lax, and incapable of Vibrations : In the first, the Spirits are scanty, in the latter none ; there is, in short, a Mean of Siccity and Flexility requisite for Memory, what that is, cannot be easily de-

termin'd

determin'd ; only when there is no Revocation of Ideas, Memory is lost, and Diseases destroying it, retain to either Kind. I knew a Lady attack'd with a Dropsy in the Cavity of the Belly, who moreover was troubled with an *Anasarca* all over her ; she had lost her Memory so far, that she would ask the same Question twice whilst she was led the Length of a large Room : The Cathartics, which were requir'd to empty the Redundance of her phlegmatic Humours, cur'd her *Anasarca* and Memory together, which she retains to this Day, tho' above Seventy. Another, by frequent Debauches of Brandy, was under the same Circumstances ; the Liquors left him feverish, and forgetful of every Action in Life ; they had therefore made his Fibres too rigid and dry, which recover'd their natural Tone by a forcible Subtraction of the cherishing Cause, by Bleeding, gentle Lenients and Diluters. This Disease then must be variously handled by Medicines, and the same must be said of their *Regimen* in Diet : Uniformity in Diet is a contemptible Mistake for Valetudinarians ; the *Sickly* differ from the *Diseas'd* only in Degrees ; the Diminution or Abolition, the Increase or Decrease, the partial or total Depravation of our Functions, argue a Disposition to a Distemper, or an actual Disease ; the Diminution, Decrease,

and partial Depravation of our Actions, betray a valetudinary State, but their Abolition, their Increase, or total Depravation, a Disease. The Causes of both are numerically the same, only the Disease demonstrates a *Propagation of this Cause*, therefore the Cure by Regimen and Medicines must be the same: But we must be more speedy in the Disease, since it posits towards the Grave; whereas, if the Cause acts lazily, and is not deeply rooted, Diet alone may suffice, when it is justly adapted in Quantity and Quality, which surely must be exactly pointed out. The Quantity is easily judg'd of, because the Stomachs of sickly People, for the most Part, soon give them to understand when they have enough, they check at too much, and they ought to leave off as soon as they perceive the least Aversion; and if the little the Stomach can bear, is not sufficient for the Support of Life, the Meal ought to be repeated upon the least Craving: But as for the *Quality* of our Diet, a competent Skill of the producing Causes must direct the *Sickly* to the Sort of Food; which, as I have said all along, in Conjunction with the whole Sett of judicious Physicians, must be opposite to the Cause of their *Disease*, or sickly Habit; indeed when People are in Health, our Study must be to preserve it, and, as the Chyle should be sweet as Milk, the Diet ought to be simple, and compos-

of such Particles as are smooth and juicy ; but any Deficiency in this Sweetness, whether it inclines to sour or bitter, to watry or saline, to phlegmatic or scorbutic, is to be amended : Thus it happens to Vintners, whose Wines are a little corrupted ; they are then under a valetudinary State, and if they are *sourish* they are cur'd with Bitters, Aromatics, and testaceous Drugs ; if somewhat *ropy*, with Sulphur, Lyes, and Spirit of Wine ; or they are precipitated with Austers or Stypticks ; if they are *watrish*, with Heat, Sulphur, Lime, and other testaceous Materials ; if *oily*, with Verjuice, or Oil of Sulphur ; if *saltish*, with Honey ; and if *stinking*, with Aromatics, for a Blind, but with Acids principally, as Correctors ; and if *fermenting*, with Acids or Submersion : Whereas, if any Uniformity were to be made use of for all these *sickly* Wines, as Dr. *Cheyne* advises for all Valetudinarians, we should never be blest'd with the Use of one of the most delicious Creatures in the Universe ; for, as the opposite and various Corruptions this Liquor is liable to, cannot be amended always alike, we should not be able to find the Quantity the Doctor allows us in Twenty-four Hours, good enough for our Purpose, and by a Parity of Reason back'd with Experience, were we to prescribe one Diet for all sorts of Valetudinarians, the Blood of most of them

would become a mere Pond, that is, a standing and corrupted Liquor.

IN a *Polypus of the Heart and Lungs*, the following Symptoms appear ; there is a constant Palpitation, a Difficulty of Breathing upon the least Motion, the Jugulars swell, and at last they faint away upon any the least Change of Posture ; as the Blood is every *Second* of Time moving forwards into the Heart, it contracts it self regularly, and throws out what it receives, regularly also ; that is, what Quantity soever is injected, or in what Time soever it receives the Blood, it throws the same Quantity out again in the same space of Time: But when any Impediment lies in the way, such as a fleshy Excrecence, or a Grume of Blood, then the Quantity receiv'd and protruded, must differ in proportion to such Impediment ; and the Heart, ever and anon receiving more than can be dispos'd of, must swell and grow large, and beat against the Sides of the Ribs, which Motion is call'd a *Palpitation* : And if this Impediment be plac'd in the left Ventricle, or in the Pulmonic Vein, any Exercise or any Regimen that hastens the Blood's Motion, must fill the Lungs to such a Degree, as to make them rigid, and incapable of reciprocating the Air, and this we call *Breathing short* ; if the Blood finds little Passage through the Lungs, all the return-

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ing Vessels must swell of Course, and therefore the *Jugulars* swell; and when the Case is confirm'd, any Change of Posture, by which the Heart is block'd up, brings on a full Stop of the Blood, the Heart ceases to move, and the Spirits fail, and thus they fall into a Swoon, in which, after some few Fits they die; as I observ'd in a Gentleman seiz'd with this fatal Disease. Under these dismal Circumstances, many more are plac'd than imagin'd; because they are treated as Asthmatics, with Pectorals levell'd at the pumping out the imaginary Phlegm, and begin to be surpriz'd at the ill Success of their Medicines with which they have cur'd so many; in short, the Patients, tir'd out with fruitless Attempts, change their Physicians often in hopes of Relief, which is not found but in the Grave. This Case cannot vary from it self, nor can the *Regimen* be alter'd with respect to the Disease; for as no Medicines are yet found out to eradicate internal Excrescences, and as Concretions are too often found remediless, *Concretions* and *Excrescences* become equal Impediments, and equally incurable; so that, as nothing conduces towards their Recovery, we are to content our selves with prolonging Life, which can only be done by having an Eye to the prevailing Symptoms: These vary much, and it cannot

be determin'd how they are to be reliev'd without making Excursions foreign to the Business in hand; however, it may be affirm'd, that a Rarefaction or Fulness is one of the main Symptoms indicating Relief, and that our Care, so far as belongs to Diet, ought to be levell'd at the Quantity; they, in short, must receive Nourishment with as sparing a Hand as their kind of Life they follow requires; they must take such Nourishment, as will dilute the Blood, and yet keep it from moving too fast on; nothing gross can pass thro' the *Lock*, and they can dispense with no Hurry of Motion: And so much for the *Quality* also of the Diet; only cold *Bath-waters*, or light *Chalybeats* for common Drink are commendable; because they keep the rest of the Blood from running into Concretions, which it is apt to do upon Stops so extensive as are made by these *Polypus's*; the most temperate and abstemious Persons, as to Liquor, being observ'd to be most frequently seiz'd with this Disease, gives us a Handle to advise such as live plentifully at Table, to make freer with Liquor, to dilute their Victuals, than others who are more sparing; they ought to eat less or drink more; what a strange Figure does a Load of Victuals make in the Vessels without more to dilute them: 'Tis possible, if they dilute heartily, the Chyle, being thin enough,

enough, may go on in the Vessels with Ease, and their Remedy for this full Meal is to fast it out ; but when they have swallowed down a large Quantity of Victuals without diluting them, they make a doughy Chyle, and what Wonder if it clings to the Vessels, and occasions the Disease we are speaking of.

A *tingling Noise* in the Ears, so trifling a Disorder as it may appear to be, is yet so troublesome to such as labour under it, as to make their Life uneasy, they must have a great deal of Spirit, not to appear out of Humour ; even the most lively are struck with Melancholy, when this Disorder sticks by them for a Time : The Reason of this constant Tingling does not depend on the Motion of the Air into, or out of the Passage of the Ear, because, apply a Feather or a lighted Candle to the Ear, and they are neither drawn in, nor mov'd at all, nor therefore does that hissing Noise, perceiv'd upon the Application of our Hand, and removing it a little off the Ear, depend upon a fresh Admission of Air into this Passage, as was some Time ago believ'd ; therefore we must seek for the Cause of this *Tingling* in the inner Ear it self. The *Drum*, or more properly its Membrane, receiving Sounds upon it, vibrates, and shaking the Bones communicates the Impressions to the Nerves lining

lining the Labyrinth and Cochlea; the *Drum* then being too tense, and vibrating too much for the Time it continues so, gives this *Tingling*, so that the Nerve, the Artery and Membrane, being all under the same Condition, are the sole Cause of this troublesome, tho' not dangerous, Distemper. But how this Membrane or Vessels come to be so affected, is the Subject of our Enquiry: When by any Cause whatever the Blood takes a Bent to any particular Part, it is crowded and ramm'd in, so that there is an Obstruction; and the Parts are then distended in Proportion as they are overcharg'd; this Bent continues for a long while, and the Effects are discoverable by the Prejudice done to the Function: Thus it is in the Case before us; upon catching Cold, the Pores are obstructed, the Quantity of Steams usually discharg'd that Way are lessen'd, and the Vessels are charg'd with this retain'd Matter; the Circulation is disturb'd, and the Vessels unable to bear the Load, discharge it on any Part the most dispos'd to receive it; this Discharge continu'd for any space of Time we call a *Fluxion*: If the Humours then are forc'd upon the Membrane of the Ear, they distend the Part, and the Arteries beat harder than usually, and every Pulsation communicates a Sound, and as this Pulsation is continual, and the Bent

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Bent and Obstruction are lasting, the Disorder is protracted: But whether the Humours are of a warm or cool Constitution is best known by the Effects; for if Pains and Throbbings are perceiv'd, or if it succeeds Fevers, the over-heated Humours are the Cause of this Fluxion, and then what can be done by Diet, must be effected by Diluters and gentle Promoters of Perspiration, and for this we must see what has been already said of Fevers; whereas if the Blood be gross, and the Temper cool, this lasts longer, but then no Pain accompanies the Symptom; in this Case we are to use an attenuating Diet, as has been said in the cold States of Blood already mention'd. In both States the original Cause, namely, the Stoppage of Perspiration is to be remedied, which is also differently compass'd, according to the State of Humours then reigning; for 'tis Matter of Experience, that what will promote Perspiration in the colder Bloods, will hinder it in the warmer; because when the Pores are straitned, as they always are by a warm Blood, the Quantity must be less'n'd; for Warmth rarefies the Blood, inflates the Vessels; and straitens their Orifices; so that upon the Whole, in this Case also, so trifling as it may appear, the Diet must not always be the same; no, it must be varied as the Causes of it differ: It
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is not the Goodness of the Diet we must heed, for all Diet is good, if we do but know how to time it, and, *vice versâ*, the best of Diet, or which Dr. *Cheyne* reputes such, is naught and dangerous, if the Species of Sickness is not regarded. None skill'd in Diseases, and the *Materia medica* will order a Diet of the same Nature with the offending Humours; namely a viscus Diet in a viscus Blood, a vegetable Diet in a Cold Seurvy, and the like. As in this Distemper Fluxion is reputed a main Cause, give me Leave to observe what the common Methods are of diverting them; we bleed, give Emetics, and Cathartics; we apply Blisters, Cupping-Glasses, Leeches, Sinapisms and Cauteries; we cut Issues, we salivate, and we apply Setons and the like; our Views in the Application or Administration of these Things, are not always design'd principally to evacuate, but to change the Motion or Bent of the Humours; and, as we have no other Contrivance to bring this Change about, but by Evacuants, therefore we often make Use of Evacuations to effect this Change, when we could wish to do the Feat without them: An Instance or two of this Kind, will make us conceive the Matter more plainly, and shew us the Truth of this Advance: Who are so apt to catch Cold, as the tender and weak, the dispirited and lean Carcasses? Upon exposing
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sing themselves unwarily to an Easterly, or North-east Wind, which is cold and hazy, they are immediately thrown into Coughs and Catarrhs: I believe no Man in his Senses thinks Evacuations necessary here, otherwise than as they revulſe (pardon the Term;) their Spirits are too low for them; but if they are not made, their Case becomes desperate, because, although they have too little Blood and Spirits, yet what they have are ſo nimble and furious, that they run with incredible Force towards any Part ſeiz'd with a *Deſluxion*; and we are void of any other Ways to draw off this Bent, but of Evacuations, which are by no means conſiſtent with their impoveriſh'd State; ſo that we ſet up contented with a ſmall Injury, for the ſaving of Life. Thus it happens alſo in *Low Fevers*, where the Blood is too groſs for the Generation of Spirits; there are in them many Symptoms requiring *Revulſion*, but none, that I can reflect on, demanding *Evacuations*: However, as *that* is effected by *theſe*, and Danger is threatned, we muſt attempt them with proper Cautions. For Example; a Perſon is feveriſh, his Pulse is very low, and he raves perpetually, his Strength is decay'd, and his Tongue is black and parch'd: Is it not the conſtant Practice of all the Gentlemen of the Faculty, to apply Blitters in great Numbers to different Parts, in order
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to draw the Bent of the Humours upon the Brain, to distant Parts? And this is done with great Success every Day, in those low and dangerous Fevers. Now the Evacuations alone would be of no Use, nor do we apply them for this Purpose; because no one can be so weak as to imagine, that Evacuations, barely as such, are necessary, when we are oblig'd to throw in the strongest Cordials, in order to support the drooping Spirits of the Diseas'd: Besides, *Lymph* is a Liquor of more Value than common *Serum*, as *Jelly* is stronger than the common Broth; and that Blisters do evacuate *Lymph*, is evident, by exposing the Liquor issuing from a Blister to the Air. From these two Instances it appears, that *Plenitudes*, as such, are not the sole Cause of so many Evacuations every Day practis'd by the Faculty, but that the Change of Motion is principally aim'd at in many Cases; nay, it may be affirm'd with great Justice, that Revulsion is the Reason for Two Thirds of the Evacuations that are now made. All the World knows, what Incidents have fall'n out in this Nation, to hinder Plenitudes from being *now* the main Occasion of Diseases; and if we consider the Original of the Bent of Humours towards any Part, we shall find, that Abundance of other Causes concur towards it, besides Plenitudes; namely, the Blood may be too sharp,

sharp, and such Particles being fitted to stimulate, by Vertue of this Action, the Fibres are put into Oscillations all over us, but in a particular Manner, at that Place and Point where this Humour lodges, so that the Blood is hurried that Way with Violence, and for a considerable Time; from which Motion, not design'd by, or agreeable to Nature, Inflammations, Fluxes, and a Thousand other Disorders attack us: Or, suppose an Obstruction of the Capillaries should create Pain, would not the Humours be invited thither with Haste? And yet a Viscidity is sufficient to produce this Symptom: The Plenitude, which is but a particular one, is subsequent to this inviting Cause. It was, therefore, a very great Inadvertency in Dr. *Cheyne*, to affirm, that Plenitudes were the main Occasion of so many Evacuations now made by Physicians: 'Twas great Pity that he, who is so great a Master in the Computations of the Laws of Motion, should forget them in so eminent an Instance, where an *Axiom* was to be made. To produce more Examples to convince you on this Head, would be needless, but of Three Thousand Cases, if we please, Two Thousand will belong to the Head of *Excess in Motion only*, and not to Plenitudes, as the Doctor unwarily affirms.

Salivations are the Produce of different States of Blood: Sometimes it happens from

a Defluxion, at other times from hypochondriac Cases. I rather chuse to mention those two Causes, because they are the most common. As in Defluxions, there is an Increase of Humours from a Retention of the Perspiration, some other Secretion will be encreased: The Lungs being the most tender and lax Part, and the most susceptible of this Excess of Humours, Coughs are therefore the most common Disorder upon catching cold; but in some People the salival Ducts are very patent, and they receive the Humours flowing in upon them, and throw them off in the Shape and Consistence of Spittle, whose Excess we call a Salivation: Now, as Defluxions are never found to be so univocal, as to accompany one State of Humours only, it must follow, that the Diet of Persons under such a Salivation must not always be the same; and therefore in the *Bilious* and *Pblegmatics*, that is, in the exalted and depressed States, not the same, but a different *Regimen* must be used; and as we have been already copious enough on this Head, consult the *feverish* and *viscous* States so often mention'd above.

IN *Hypochondriacs*, 'tis well known how much they differ in Constitutions, some of them are starving with Cold, while others of them are parch'd with the Heat of their Blood: 'Tis true, both the low and con-

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centred Acid have one and the same Efficacy, in preparing the serous Part to divide easily from the grumous, and in irritating the Fibres or the Ducts of the Glands to throw off *Saliva* in a plentiful Manner, and so to raise a Salivation; but yet they differ in this Particular, that *Excess of Heat* must require a very different *Regimen* about Meats and Drinks, from an *Excess of Cold*, which is the Case of many *Hypochondriacs* and *Hysterics*; and, as it was observ'd in the Scurvy, that it did not always require the same Management, so I say of the *Hypochondriacs* and *Hysterics*, that in the *cold State*, all the Poignants, all the Aromatics, all the Bitters, all the high Diet of Mustard, Peppers, *Nasturtiums*, Horse-Rhadiſh, Hops, and such-like, are permitted, nay, are requir'd, whilst they would so inflame the warmer Species, as to encrease their Thirst, raise vast Turmoils in their Spirits, and even dispose them to Madness: But, on the other hand, the cooler Diet of Element, of slimy Things, as Gruels, Pannado's, Jellies, Creams, Milk-meats, and Puddings, would so encrease the cold Species, as to introduce deep Melancholies, or, at least, lasting Inflations, Constrictions on the Breast, Choakings, Concretions of Blood, and many more. So that such sickly Folks, who may be reckon'd true Valetudinarians, are not to be manag'd always

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alike, because Diet must alter, not encrease, a deprav'd State of Humours, as has been often said, for indeed Hypochondriacs are Scorbutics ; and such must use the same Diet as has been order'd in the Scurvy, which is an equivocal Name, as the most unskill'd may easily discern.

Hæmorrhages differ exceedingly in their original Causes, as we shall easily perceive by descending to a few Particulars. The immediate Cause indeed is always the same, and does also indicate a particular Regimen of Diet, which is often contrary to the original one, yet more urgent than it ; for Example : An Hæmorrhage of the Womb is produc'd in various Manners, namely, by a Blood too much attenuated with volatile Salts in it ; the Blood in this Case is rarefied and swells out the Vessels, and breaks them : Here the Regimen must be cooling and diluting, that the Salts may be alter'd, and put at a distance from each other ; and for this you must consult what has been said in the Paragraph of the *Scurvy from volatile Salts*. This Bleeding often proceeds from too great a Quantity of Fluids in the Vessels, stretching and breaking them : Here all we can do by Diet, is to keep the Body low, by refraining from Wines, and by Fast-ing, till we have brought the Blood to such a Quantity as the Vessels can hold with ease. If the Grossness of the Blood be the Occasion

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of it, (and it sometimes happens that Blood too viscid fills the Vessels every where with Obstructions;) if by virtue of these they are fill'd too much, where the Vessels are tender, and not fortify'd enough with Covers and Flesh, and where moreover they are us'd to throw off Blood, they will open, and a Stream of Blood will gush out: In this Case we must use all proper attenuating Diet, to dissolve this Cohesion; such is all the bitter, pungent, and aromatic Diet in Victuals and Liquors, as you may see above: Or if this Excess depends upon a Suppression elsewhere, as the Blood-vessels are fill'd in the manner just mention'd, the same Diet is proper. But let the first Cause be what it will, if the Blood runs in a full Stream, the Patients wou'd lose their Lives before we could alter their State of Blood; and therefore, tho' Emplastics and Astringents may be very often inconvenient for this State, nay, and may even augment it, yet they must be put in Practice to save a Life; therefore Rice Diet, a Sago Jelly, all Jellies, Calves-feet, Red-wine with Water, Medlars, Quinces, Millet, and any Victuals made with Almonds, Flummery, and such-like, are necessary, and are all that can be effected by Diet: We must then avoid all salt Meats, all Things season'd with Pepper, Pungents, or Aromatics; for altho' they might be proper to take off the antecedent

or remote Cause, yet the conjunct or immediate one won't suffer that Attempt to be made with Impunity: In short, let Hæmorrhages proceed from what Cause soever, this Caution is first to be strictly observ'd, that the *Fit* of Bleeding requires an astringent and emplastick Regimen; but the *Interval*, a Diet proper, and fitted to the first Cause, which differs infinitely, the Fluids not being always to blame for this Excess, because the Womb, as other Places, may be *ulcerated*, and where the Fibres are so eroded as to be left bare and open, the worst and least curable Bleedings ensue; and altho' Styptics are not the most convenient Medicines for an Ulcer, yet that Consideration is of little weight with us, if we reflect on the immediate Hazard the Quantity of Blood issuing so hastily forth, puts the Patients under; from whence it appears, how great an Analogy there is between Diet and Medicines; so great is it, that we cure the Valetudinary State, as we would cure the Disease that State tends to: And from this Instance also it is plain, that it is the utmost Folly to imagine that every sickly Person must be treated the same Way; much less are States tending to any Fault in our Juices, to be treated with Diet or Medicines that evidently encrease this preternatural State: No, Diseases differ in their Causes, but Valetudinarians and the Diseases differ

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differ only in Degrees ; so that such as the Cure of the Disease should be, with the same Method, must the Valetudinarian be treated : What has been said of one Bleeding, may be affirm'd of all.

IN *Catarrhs* the following Symptoms appear ; from catching Cold, Matter flows from the Nostrils, Eyes, Jaws, Mouth, Intestines or Lungs ; the Body feels all over weary, Shiverings seize them ; they complain of a Heaviness and Dulness of their Heads ; they are feverish, towards Evening especially ; they often sneeze, and their Nostrils are stopp'd up so that they can hardly breathe ; they are often troubled with Pains and other *Defluxions*. The Reasons of which Symptoms are easily accounted for, because, whenever the Pores are obstructed, the Matter of Perspiration is check'd, and the Vessels are fill'd too much with a thin Liquor, and they run over *quâ datur Porta*: The Weariness is a sign of Fulness ; for in Fevers, or hazy Weather, where the Vessels are full with a Rarefaction of the Fluids, or a Retention of Matter, this Weariness is a common Symptom ; the Pressure hinders the Influx of animal Spirits, and from thence causes an Inability : The same Fulness produces the Dulness and Heaviness, by pressing on the Brain, and hindering the Influx of Spirits : They are feverish, by reason of the Particles retain'd, which, being of

a fermenting Nature, raise a Struggle in the Blood, and more particularly towards Evening, when the Sun receding leaves Damps upon the Surface of the Earth, which stop up our Pores; Pains and Defluxions are occasion'd by the Tension of the Vessels, so that the Fluids stand still in some Parts, and hinder the Circulation; by which Accident the whole Blood is blown into a Struggle, and running violently into the Parts, raises these Symptoms. In *Catarrhs* we are seriously to consider the Nature of them; the Fever is in some very remarkable, in others hardly observ'd; the Blood is also very bilious in some, but in others very phlegmatic; so that the Bent is govern'd by the Humours and Fever: Where they are of a bilious Constitution, and the Fever runs high, the Diet must be *cooling* and *sparing*; *sparing*, to prevent the too great Rarefaction of the Fluids, which would endanger *Hæmorrhages*, and to serve as a negative Evacuation; *cooling*, to set the fermenting Principles at a Distance from each other, and to settle the Blood, which is swell'd above measure: For by this *Regimen*, the Mass of Blood being enlarg'd by Rarefaction, is reduc'd to its usual Bulk, and the Ducts easily receive it again, and pass it off by the Pores and Kidneys; and the Vessels having lost their Elasticity by too great Tension, are brought down to their natural Tone:

Tone; so that the Fluids and Solids being reduc'd to their usual Dimensions, all our Functions begin a-new to be regularly executed. In order to know what Diet is to be follow'd in these Catarrhs, consult the Paragraph of high Fevers: But where the Fever is hardly perceptible, and the Blood is of a sluggish and gross Consistence, and its Principles are rather unactive, and the Fibres are lax, there we must change our Measures; we must indeed feed *sparingly*, by reason of the Retention of the Perspiration, and this Caution is of use to such who are so tender as to be unable to bear Evacu-ations; but the Quality of the Diet must be drying and attenuating to a gentle Degree: What attenuates, dries also; and the Advan- tages receiv'd by Attenuants are, those of Opening the Pores, and of setting off those retain'd Particles into their proper Channels. One Circumstance ought to be observ'd in all Catarrhs, that a moderate Warmth in Clothes or their Rooms ought to be encourag'd, by which Regimen the Pores gently relax, and the Flood-gates being open'd, suffer the Effluvia to pass freely, as usual.

IN a *Syncope*, where the Persons fall into a Swoon with a Paleness of Countenance, there is a Stagnation, or, at least, a great Interruption of Motion in the Heart; this is always the immediate Cause, whatever be the remote one; and as this Stagnation

would subsist for ever, were it not for a sufficient Supply of animal Spirits conquering this full Stop, and afresh contracting this Muscle, and setting the Blood forward again; so this Cause is of that consequence as to merit the whole Care of the Physician or By-standers, without any regard to the remote one: For let us suppose this disposing Cause were quite opposite, yet, unless we give Motion to the Heart, and very quickly too, the Remedy would come too late; for all *interpolated* Motions undergo the Fate of complicated Cases, and must either be remedied together, or treated as *most Urgents*: As we have taken a view of the most pressing Cause, let us see what can be done with Diet to refresh and quicken this Motion. The most sudden Relief here is to be expected from Wine, and Spirits made of it; they immediately give a Shock to the Coats of the Nerves, and by Vertue of this Concussion, the Spirits are detach'd more plentifully into their Channels, and the Heart is thereby again contracted. Nor has the common Method of Sprinkling them with Water, any other Foundation, than that it suddenly contracts all our Vessels, and shakes them, so as to force forwards their Fluids contain'd. It is also a Custom, to offer Swooning Persons a Glass of Water to drink, but this is not to be given to all of them indifferently; for if this Failure
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proceeds from a Blood whose Texture is too compact and close, and therefore unfit for Circulation, 'tis easy to see of how little Advantage it will be to offer them a Liquor that will chill it, and make it more close; the fatal Consequence such a Procedure would have, would soon convince them of their Error: Wherefore it should never be given but to such as have their Blood too much rarefy'd, for such only will be profited by it. We see this practis'd daily in Crowds, where some Persons, otherwise in perfect Health, are apt to fall into Swoons, because the Heat has swell'd their Blood, and made it circulate too fast round, so that more of it enters the Ventricles at once, than can be set forward, because the Quantity wherewith the Ventricles are press'd, bears too much against their Walls, and stretches them so far, that they lose their Elasticity; and moreover this Inconvenience follows, namely, that the Spirits have no Room to enter the Nerves for their Contraction; so that, till a Surplusage of Spirits conquers those Impediments, the Heart stands still; and if this Symptom happens for any Space of time, the Patients surely die, because the Blood chills, and turns into a Cake: And, indeed, they who are subject to this Disorder, never fail of having *poly-pous Concretions* in their Vessels at length, which

which are very hard to conquer. In short, the Case of *Syncope* stands thus: The Blood, whether too close, or too thin, will stand still in the Heart, if more enters than can be dispos'd of; for then the Ventricles swell and are over-stretch'd; and, as the Bladder over-fill'd with Urine, cannot do its Function, but a Suppression will ensue, so neither can the Heart, or any of our Vessels, in a real or metaphorical Plenitude, contract themselves so exquisitely as the Nature of the Circulation requires, and then Stagnations of the most fatal Consequence must follow: For as Death is an eternal Swooning, so is Swooning an extemporary Death, which, if not carefully and quickly regarded, proves fatal. But in the chill'd state of Blood, out of the Fit, all the high Diet, of generous Wines, high Spices, Aromatics, and Pungents, must be made use of; whereas in the too rarefied one, Water-drinking is commendable; and the Diet ought to be cooling, and diluting, as may be seen above, in the hot Scurvy from volatile Salts.

IN an *Obstruction of the Menses*, the following Symptoms occur; upon the Suppression, they are troubled with Head-achs, Watchings, a Loss of Appetite, a Languor, a Heat of the neighbouring Parts, or a Pulsation, Flushings and Shiverings alternately, Heaviness, Colicks, Vomitings, a Shortness of

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of Breath, especially upon Motion, and Consumption, with Varixes, Swellings in the Legs, Inflations, hyfteric Fits, the Whites, Bleedings elfewhere, with Palpitations, Vertigo's, Apoplexies, Madnefs, Palenefs all over them, and many more. If the Cause of this Suppreffion were always the fame, one Species of Diet would only be neceffary ; but its firft Cause differs widely : For let us fuppofe a Plenitude has introduc'd a Groffnefs of our Fluids, as the Cafe ftands in Dr. *Friend's Emmenologia*, then the Symptoms are accounted for in the following manner : The *Headachs* proceed from a Diftenfion of the Membranes ftretch'd over the Bones, which are very fenfible, and this Fulnefs caufes a troublefome Senfation ; the *Watchings* arife from this Tenfion, and a fwifter Motion of the Spirits through the Brain ; *Lofs of Appetite* proceeds from the Blood made more vifcid, and the Secretions being of the fame Nature as is the Blood, from whence they part, to wit, groffer, and lefs charg'd with the natural Salt, which fhould irritate and twitch us into a Senfe of Hunger. The *Languor* and Weaknefs, proceed from a more fparing Quantity of animal Spirits, which are fecreted in a reciprocal Proportion to the Vifcidity of the Blood ; and as the Fulnefs of the Veffels occafions a Retardation of Motion, this Lentor is naturally generated.

rated. There is a Heat in the neighbouring Parts, and a Pulsation of the Arteries, because whilst the Obstructions are recent, the Blood's Motion is accelerated, and the Salts it is charg'd with, do stimulate the Parts; so that *Heat*, the Result of Motion, and *Pulsation*, the Consequence of a rarefied Blood, do much infest Women upon a fresh Suppression: But if this Plenitude arises higher, it quite destroys the Elasticity of the Vessels, and the Motion is of Course retarded, and then a Viscidity is produc'd, and this encreases in Proportion as the thinner Parts pass off; *alternate Flushings and Shiverings* arise from a Viscid, in which some fermenting Salts are envelop'd, and as they chance to rise up into a Struggle, or not to be extricated, these Symptoms appear; the *Heaviness* proceeds from too sparing a Quantity of animal Spirits, so that the Blood moves on so slowly, as to be felt like a Load upon the Parts, and this being a general Fault, it is felt all over us: *Colicks* spring from the viscid and acrid Particles separated into the Guts, and lodging there, they ferment, and raise Bubbles distending the Parts, and introducing a Sense of Pain: *Vomitings* are a Stream arising from the same Source; for whatever, raising Colicks, is plac'd in the Stomach, and becomes more putrefied, irritates strongly, and invites a turbulent Influx of animal Spirits into the
Coats

Coats and Muscles, and occasions a Vomiting. A *Shortness of Breath upon Motion*, is caus'd by this *Lentor* or Viscidity sticking close to the Walls of the pulmonary Vessels: Suppose then such a Person moves hastily up Hill, the Vessels of the Legs are press'd together by the Motion of the Muscles, and the Circulation is confin'd to the upper Parts, which, in this Supposition, are loaden with almost the whole Mass of Humours; then it must follow, that these Vessels, how small soever they are become by their lining Viscid, must circulate the Whole in a less Time; they will then be so overcharg'd and distended, as to become inflexible, and the Passage for the Air will also be diminish'd, so that they must breathe short. The *Consumptions* of Women labouring under a Suppression of *Menses*, are, generally speaking, of the asthmatic Kind in *England*, because their Blood is more charg'd with viscid than acrimonious Humours; the Glands become stuffed with gross Humours, and relax so much as to make to themselves a *Reservoir* admitting a plentiful Quantity of them, and discharging them into the Passage, and as they lodge there, they contract a sufficient Pungency to irritate the Lungs, and produce a Coughing up of a viscid discolour'd Phlegm, and they who would know, whether

ther this Greenness is a Parcel of Matter or only Phlegm discolour'd, may satisfy themselves of it by an easy Experiment, which will change the Phlegm into a Curd, but will not touch the *Matter*: This Colour of the Phlegm has deceiv'd the most sagacious in Catarrhs, which are stubborn; nor is it easy to distinguish such a Catarrh from a confirm'd Consumption without this Experiment. *Varixes* are a Distention of the Veins produc'd by a Viscidity in the Juices, which, retarding the Course of the Circulation, breaks the inner Coat of the Vein and swells it outwardly. The *Legs swell* in such Women, because they hang down; and whenever the Lymph becomes grosser than usual, it does not circulate up again with ease: For the Lymph relaxes the Fibres of these Parts, and their due Elasticity being lost, which doubtless is proportion'd to the Labour design'd it, and consequently the Fibres of the Legs are stronger than those above, the Fluids stand still there, and swell the Legs. *Hysteric Fits*, by all the Symptoms attending them, seem to retain to a Convulsion; if then the Occasion of them be a more plentiful Influx of animal Spirits into the contracted Muscles and Parts, then such Fits are only produc'd while the Fulness has not affected our Juices with a Viscidity; for in this Supposition the Spirits would be few, and such Fits would then properly

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properly be esteem'd temporary Palsies; because whilst some Muscles were depriv'd of the due Quantity of Spirits, their Antagonists would then be contracted. When Women want their *Menses* they usually have the *Whites* in their stead, because the Quantity is proportion'd to the Mouths of the Glands, and they, being relax'd by the Viscidity of the Lympha, spue out the Juices separated by them; which are white, because they are of such Colour as is the Blood from whence they derive it; Bleedings are common elsewhere, because the Retention fills the Vessels, and if they are stretch'd beyond their Tone, they are liable to crack. *Palpitations* are convulsive Motions of the Heart, which the irregular Influx of animal Spirits renders them subject to; the fuller the Heart is, the stronger must be its *Systole* to throw out its Contents; and such a strong Contraction continu'd, is a Palpitation; the *Swoonings* are the Effects of Stagnation for a while, as has been said above; *Giddiness* is also an Argument of Fulness in the optick Arteries, upon whose Pulsation the *Retina* rises out of its Place, and occasions the wheeling round perceiv'd at certain Seasons. *Apoplexies* spring from the Retention, because the Vessels are over-stretch'd, and a Viscidity is bred from the retarded Motion of our Fluids; from such a State a sparing Secretion of Spirits must

must be expected, and a Pressure from the Stagnation, so that the Functions of the Brain, supposing a great Fulness, will be impeded, and a deep Sleep will ensue: *Madness* ensues from a lively and brisk Motion of the Blood and Spirits; this Symptom begins before the Blood becomes viscid; because when the Retention is fresh, and the Vessels are thereby much stretch'd, the Spirits are separated in Proportion to the Quantity of Fluids; that is, too plentifully, and the Motion also increases with the Quantity; so that the Spirits move in a Hurry, and shock the Vessels very rudely, and raise confus'd Ideas. The Paleness of such Women is accounted for, by taking a view of the Composition of the Blood, which is mostly viscid Lymph. In case the Matter stands as it is represented to us here, the chief Regard must be had to alter the viscid State of Humours, and to refrain from too plentiful and full Meals; and therefore the Consideration must not be simple here neither; for while the Plenitude only abounds, and the Blood and Spirits are toils'd about in a Hurry, as we plainly see is the Case in Madness, Bleedings elsewhere, and some few other Symptoms, then we are not only to feed *sparingly*, but we are also to prescribe a Diet, not *heating* but very *diluting*, which may not encrease Viscidities; but when the Obstruction has continu'd

continu'd for some Time, then it must be *sparing* and *attenuating*; our Diet has the same Foundation of being chang'd, as our Medicines; and Indications are surely to be strictly observ'd in the Administration of them; and if we were as nice in Diet, Affairs would often succeed much better than they do, and Cures would be more quickly accomplish'd: If Errors in Diet have sudden Effects in producing Diseases, they, by a Parity of Reason, will have the same sometimes in the Cure of them; and we experience every Day, how quickly Persons, subject to Colicks, are thrown into a Fit by eating a little unripe Fruit, or a *Seville* Orange; how suddenly they, who are afflicted with Asthmatic Fits, are seiz'd with them upon eating a Meal of the Legumens, or drinking a Glass of Wine more than ordinary; how such as are liable to be night-mar'd are, upon a full Meal at Supper, or upon a Meal of windy Diet, surely seiz'd with a Fit that Night. As these Instances are met with in Practice very frequently, they shew us what great Things are effected by Diet; and can we then be complain'd of, as too exact in observing the minutest Changes in Diseases, and for adapting the Diet as they alter? 'Tis true, the greatest Difficulty consists in finding out these Changes; but then, he who does not, is by no means capacitated for Practice: In the main, in all Suppres-

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sions,

sions, Moderation is absolutely requisite; and according to the subsequent Circumstances, the *Regimen* is either to be *diluting* or *attenuating*; *diluting*, if the Motion or Qualities be *intended*; because the Salts being put at a Distance from each other, their Pungency is abated, and the Motion is retarded; but *attenuating*, where the Blood has grown thick, as in length of Time it does: I have already shew'd what Diets these are, and therefore I shall supersede the Mention of them. But altho' this Disease be often produc'd in this manner, as all Authorities antient and modern do testify, * yet they are not always produc'd so, for the Plenitude is often subsequent to the Grossness that produces the Obstruction; that is, there must be some Grossness suppos'd to be lodg'd in the Womb, to obstruct, before the *Menses* are stopp'd, much less does this Account hold true in emaciated Persons, where the *Menses* never appear: There is no occasion for either Viscidity or a Plenitude in this Case, there is neither Blood nor Spirits enough to supply them, the Vessels are not stretch'd to such a pitch as to have their Mouths open'd, nor is the Diet therefore to be *sparing* or *attenuating* here: On the contrary, there is

* Vide Schmitz. Jonston. River. Dolzeum, &c.

no surer Method of provoking them, than by plentiful Feeding: When the Blood is supply'd enough, then the Vessels open again at their usual Intervals; there is no need of Deobstruents, either for Medicines or Diet; the original Cause being struck at, the immediate yields without Irritants. 'Tis very easy to know the Cause of such a Suppression, if we reflect how little Damage such Women suffer by the want of them; for indeed they will want them a Quarter, or Half of the Year, without the least Inconvenience: Besides this Cause, it often happens, that too great a Rarefaction is the first Occasion of a Suppression: For in this Supposition, the thinner Parts are carried off by the Pores or Kidneys, and the Blood becomes unequal in its Texture, some whereof is left thick and viscid, or fizy. If that Part which is render'd thus gross, should circulate thro' the Womb, the smaller Vessels there may refuse it Passage, and obstruct the *Menses*. As such Persons are generally of a feverish Constitution, and subject to inflammatory Cases, the Diet must of necessity be diluting and gently aperient, the Particles of this Blood become cohesive, and are therefore to be kept at a sufficient Distance from each other, and what is already fix'd in the Vessels, must be push'd forward, and broken into minute Particles; therefore the watry and the chalybeat are proper for

Drink in such a Case; that is, chalybeat Waters of the lighter Kind answer our End: I remember to have set by the Liquor issuing from a Blister, which being forgot, harden'd into a coriaceous Substance; and having put the chalybeat Waters to it, it immediately dissolv'd, and became very smooth and saponaceous: I make no doubt, they will have the same Effect given inwardly. I forbear at present, to make mention of many other Causes occasioning an Obstruction, some of which arise from the State of the Fibres themselves, which are often rendered too tense, from some external Cause; in this Case a *softning* and *oily* Diet is the most effectual and likely to succeed; Locals have a good Effect upon 'em, and if assisted by Internals of a like Nature, we may depend upon a surer and quicker Relief.

IN *Abortions* we must consider how variously they are produc'd, to be able to judge what sort of Diet is necessary to advise such Women to; I shall at present confine myself to two principal and most common Sources from whence Miscarriages spring: In the first Place, a feverish Constitution is apt to make Women miscarry; and indeed, we find many who are subject to have their Blood and Spirits put into Hurries, liable to this Misfortune: Hysterical Women that are subject to Fits, seldom are fruitful, for this Reason; Women who indulge themselves

in the Use of strong Liquors, do seldom go on, because they fill their Vessels too full, and shock the *Placenta* off from the Womb: Fevers, if violent, produce a Flux of the *Menses*; and all know the Danger Women with Child and sick of a Fever, are under; insomuch that we are forc'd to administer *Stypticks* along with the Medicines proper for the Fever, to prevent a Miscarriage: In this Case, the Diet must be *diluting* and *emplastic*; *Dilution* is necessary for the Constitution, and *Emplastics* for the Womb; and, as I have already shew'd what this Diet is, in the Paragraphs of *Fevers* and *Bleeding*, I shall wave it here. In the next Place, the Womb is too *lax*, and thereby is rendered unfit to bear any Load; so soon as the Child grows weighty, that Weight is greater than the Cohesion, and off it slips from the Womb, and they miscarry: Here the Diet must be *emplastic* also, but not *diluting*; their Fibres are already too much soak'd in Moisture, they seldom want the *Whites*, and all the Glands of the Womb become flabby, so that Dilution would but encrease the Danger; Generous Red-wines, which in the former Case would forward Labour and endanger Life, are absolutely necessary in this State; they warm the Blood, exhale the abounding Serum, carry it off by the Pores and Kidneys, and gradually dry the Womb, which there-

by recovers its Tone, and becomes more elastic, and more able to bear its Burden.

IN a *Rheumatism*, the Causes of it differ widely; for tho' the Pains in both Cases do depend upon a Viscid which is too gross to pass the smaller Vessels, yet this *Viscid* being produc'd in different Manners, varies the Intentions of Cure, whether by Drugs, or Diet: In the Cold Rheumatism, where People are infested with running Pains, but where the Blood is not over-heated; the Juices have been thicken'd either by Diet, or External Accidents; they have liv'd upon unripe Fruits; they have delighted in Pickles; they have drank small Cyders, or have expos'd themselves perhaps to cold and frosty Winds, and have thereby render'd their Juices gross and unactive, the Circulation is retarded, and the Serum or Lympha, being thus thicken'd, stops at every small Vessel, distends them, and creates Pain, which is more or less lasting, as the Juices are more or less thicken'd: The Diet in this Sort should be *warm* and *attenuating*: By such a *Regimen* we re-dissolve the *Coagulum*, and the Pains will thereupon lessen, and at last cease. As it is observ'd, that these Pains are conquer'd by Spirits of Hartshorn, it leaves us assur'd, that the attenuating Diet will answer our End. But on the other Hand, where these Pains are attended with Heat and Fever, and they pro-

produce a Swelling upon the Parts affected, the State of the Question is chang'd; the Blood indeed is *viscid*, and appears of a Buff-colour upon the Cake; but then this sort of Viscidity would be heighten'd by the Diet prescrib'd in the former; Attenuants would advance the Fever, and encrease thereby the Viscidity, and consequently the Pains, as may be seen by such as are intemperate, while they have Rheumatisms upon them; Water-drinking, Ptisans, and cooling Diet, is all we must rely on in these Rheumatisms; volatile Drops are too violent, for the same Reason that Attenuants are hurtful: Dilute well, and use Gruels, Panado's, and such-like, we thereby prepare the Humours to be evacuated within fourteen Days. This is the common Term for such Blood to be digested and prepar'd to be carry'd off; for whoever attempts to administer Purgatives before that Season, raises the Pains he would allay: The Water shews its Digestion by its permanent Sediment, and the Constitution is known by the sedate Pulse, and Decrease of Heat and Thirst: Now it is, the Patients may venture upon more invigorating Diet, or however upon Diet which will gently promote Perspiration, and even Sweats; for the Humours are now prepar'd to pass off by any Outlet; and as Sweats are usual and useful, 'tis the Physician's Business to promote them; which he may readily

dily do by large Draughts of Sack-whey, by frequent drinking of Tea's made of Sage, Rosemary, Sassafras, Green or Bohea Tea, or such-like; the Liquor being small dilutes and washes off the viscid from the obstructed Canals, while its Warmth and fine Parts keep up an equable Motion of the Fluids; so that the Vessels being kept full, those Humours are in a fair Train of being carried out of them; and the Blood, having once parted with its morbidic Particles, becomes of a just Consistence, and is stock'd with balsamic and nutritive Juices, so that it will from thenceforward run on with Ease, and nourish as formerly. In either Case, the *Viscid* requires Dilution; but in the first, the Liquors must be well sawc'd with Bitters, Aromatics, or Pungents; whereas in the latter, Dilution alone will serve the Turn; it separates the viscid Particles from each other, and envelopes the acrimonious Salts in the Mass: In the former Case, *Bath-Waters* are very proper for common Liquor; but in the latter, not only useless but dangerous,

Ischuries proceed also from various Causes, Stones sticking in the Passages do often occasion a Stoppage in our Water. In such an Emergency, Broths or Caudles, and all Diet whatever, should now be such as to wash down and off this extraneous Body, and if also some forcing Drinks were us'd, which would not inflame, the Affair would
succeed

succeed so much the better; among these *Birch* Wine or Liquor is look'd on as Specific; it dilutes and relaxes. But *Ischuries* don't always depend on this Cause: They are known to proceed from a Quantity of *Mucus* lodg'd in the Passages, and then a dull heavy Pain is felt on the Loins, no Fever attends them, nor any Thirst: In such a Case, the *Pain is dull*, because the Matter that is lodg'd is relaxing, and the Fibres stretch'd in every Dimension without Trouble: Fevers attend Inflammations only, but the Part is not inflam'd, because the Fibres being soak'd in a soft Liquor makes them give way with Ease, and distend without inviting a Flux of Spirits to the Part; and Thirst being an Effect of Humours being put in a Hurry, and exhaling the thinner Parts, the Mouth becomes dry: 'Tis not easy, indeed, to distinguish when *Mucus* is the Occasion of a Suppression, but having observ'd it accompanied with the above-nam'd Symptoms, and having seen a Patient reliev'd by a Mercurial Purgative, which made her void near a Pint of *Mucus* by the *Urethra*, before the Urine flow'd freely: It is a Circumstance worth Remark, since I don't recollect to have read of such an Instance of Suppression any where; and surely in this Case, the *Regimen* ought to be regulated by the Cause, which being a phlegmatic State or an Obstruction, must be treated with

with attenuating Meats and Drinks. Therefore Wines, hopp'd Liquors, Victuals cook'd up with aromatic Herbs, are the proper Diet to be insisted on; these thin the Blood in the Vessels, and being separated into the Kidneys, do re-dissolve the jelly'd Juices: It is surprizing how so much Matter could lodge in the Passages, but doubtless the Bladder also was fill'd up with it, or so large a Quantity could not have been voided; the Original of which Flux might be some Obstruction of the Lympha into the *Receptaculum Pecqueti*; the Lymphatics reaching from the Kidneys thither, being thus resisted in their Passage back again, break into the *Pelvis*, and afford this congeal'd Stuff, for the common Secretion affords nothing of this Nature: In this Supposition, which is not unreasonable, gentle Styptics should also be allow'd in Diet, in order to close up the Breach. But these Suppressions are not always thus occasion'd, for a Plenitude it self often introduces them; the smaller Vessels are put out of a Condition of contracting themselves, and therefore of pushing forward the Blood, so that the Heart sending Supplies every Second of a Minute to the Part, these Twigs thus over-loaden, can't separate the Urine: The Load such People find on the Region of the Kidneys, and the full Habit of Body they are under, give us just Suspicion of the Cause; all that can be effected

fect'd by Diet, is hardly sufficient to relieve ; however, the attenuating Liquors or Meats must be forborn ; Fasting, though too slow a Remedy, is commendable, for Nothing relieves like large Bleeding : I was often concern'd with a Lady under these Circumstances ; no Diuretics of what kind soever prov'd of Service, but Bleeding had an immediate Effect. But if a Palsy be the Occasion of this Symptom, then warm and aromatic Plants in Liquor and Meats are necessary to open the Nerves, and cure their relax'd State. So that here also we are constrain'd to change our Regimen as the Cause varies.

ALTHO' the Diet in *Worms* should ever be of the same Nature, yet Circumstances make a great Difference, for it is certain that some Nourishment is very apt to produce them, or, to speak in more proper Terms, the animal Diet is more convenient for hatching them : Some Authors have advis'd against Milk, because, say they, the Flies deposite their Eggs, which are hatch'd into Worms : But this would be acknowledging a Mistake less intelligible, than to say Putrefaction was their Parent ; the Egg of a Fly never produces a Worm, nor *vice versa*, but these are swallow'd in our Diet ; the Eggs of Earth-worms produce Earth-worms, and if they are found within us, produc'd from raw Milk, they must have been

been swallow'd by the Creature that afford-
ed the Milk, how hard soever this is to be
credited ; since no Generation is equivocal,
There is doubtless some Food those Rep-
tiles delight in more than other ; and we
find, that they are found to lodge their
Young where they feed oftneft, that is, in all
Sweets ; so that *Figs* are one of the worst
Fruits Children can feed on, and are there-
fore forbid by all : 'Tis a well-known Arti-
fice with Physicians, to administer tasteless
Specifics against Worms, wrapt up in
Sweets, and so they swallow the Bait and
Hook together : Sugars also are bad in the
Diet of Children, not upon its own Ac-
count, but because the Eggs of Worms and
other Animals are dropt into them : The
Symptoms of Worms are many, and are
observ'd to proceed either from *Consump-
tion* of the Nourishment of the Patients,
or from an *Irritation* raised by their *Pro-
bosces* or *Snouts*, as will appear by taking
a view of their Effects. Wherefore the Pains
in the Belly, the Gnashing their Teeth, the
Itching of their Noses, their *Diarrhea's*,
and Convulsions, do all arise from the
Worms twitching the Guts, and putting
the Nerves into Contractions ; whereas the
Faintings and Atrophy's are from the Want
of Nourishment. The Diet People troubled
with *them* should insist on, or rather the
Sawce for that Diet, ought to be such as
Expe-

Experience informs us, will expel them ; they ill bear any thing but Sweets, and therefore we ought so to season the Chyle, as to render it disagreeable to them, yet not so much as to disturb them too eminently, for then they raise great Tumults in the Bowels, which very often throw poor Infants into Convulsions ; we find by Experience, that *Oil* is an Enemy to them, and that being put into it, they grow languid and die ; their *Perspiracula* along their Spine are bung'd up by it. *Salt* and *salt Meats* are found of Use, for, as they avoid any pungent Diet, so they are hurt by it ; and yet it is surprizing how these Creatures breed in salt Water in the *Indies*, as appears by the Damage they do to our Shipping. Red-wine is an Enemy to these Creatures, which seems to be owing to its Stypticity ; it appears by Experiment they die soon in Claret : Heat is also found to be an Enemy to them ; for if they are expos'd to a little Warmth more than usual, they expire and shrivel. We see by every Day's Experience, how Worms are voided dead in Fevers, the Heat of the Body being much encreas'd above the natural, so as to parch the Intestines, and the Mucus they are lodg'd in, kills them ; Aromatics, Pungents, and Bitters having their share in Diet, are of Advantage to *Worms* : But notwithstanding we are all well skill'd in Vermifuges, sometimes

times it happens, that we must be careful in their Administration, because at a Time when the Blood is overheated in a Fever, and they are disturb'd thereby, I have seen and observ'd, that the giving of Drugs eminently efficacious, has at that Time prov'd fatal ; and if Drugs, by an equal Consequence, Diet which is too quick and strong for them, may be of ill Consequence.

IN the *Gonorrhœa* and *Venereal Disease*, the Signs are numerous, and spring from an apparent Acrimony in the Juices ; the Pains, the Ulcers, the rotten Bones, the Bubo's, the Shankers, and the *Chordee's*, are all Arguments of a Sharpness of Humours, and as this Acrimony is of the Nature of *Aqua Fortis*, it ought to be amended by Diet, which has a *Smoothness* in it ; neither can I see why a warm Regimen should be forbid, as I find some Physicians advise ; for who is afraid of Medicines which have Heat in them : For Example, *Guaiacum* and *Sassafras* are both recommended in all their Prescriptions, whilst they banish Aromatics and Pungents from the Table : But is not *Sassafras* hot, biting and scented ? and is not *Guaiacum* also biting ? They are known to contain volatile Salts in them, which are also *oleous* ; and it is for this very Reason they are useful in the Pox : For the smooth and oleous Parts serve to sheathe the prevailing Acid in the Humours,

whilst

whilst the volatile Salts are accounted diametrically opposite to the Acrimony; wherefore it is a Mistake always to forbid either Aromatics, Pungents, or Bitters in the Liquors of pox'd People; indeed Salt and salted Meats, or eager Diet, as Pickles, and the like, ought to be banish'd, because they add to the Acidity of our Juices, and encrease the Malignity of the Humours, and therefore these are always prejudicial. And sometimes Circumstances require, that we should avoid these Pungents; for if pocky Persons be of a hecticall Constitution, the smooth Regimen of Ivory, Hartshorn, China, and Sarsa, are only allow'd in Jellies, Broths or Drinks, and a plain Diet of Rabbits, Veal, and Chickens, which have a Smoothness in their Nourishment: If we administer the Sours or Salts in Viſtuals, we add to the original Disease and the Symptoms also; but the Pungents encrease the Symptoms, and waste us by forcing Sweats, Urine and Stools; all which the Patient is in no Condition to bear: Our Business is to nourish and alter the State of Blood at once, but by giving the Patients warm Things, we do not nourish but subtract; and the Patient wou'd be spent and wou'd die before his Blood were rectified: Moreover, this pungent Diet is also with Reason forbid in Case of Ulcers, because there is no healing them, without sheathing their Acrimony; and this Sort of Diet,

Diet, by contesting with the malignant Juices would raise too great a Struggle, would inflame them and hinder their healing up: When a Swelling appears any where outwardly, and becomes inflam'd, the Inflammation should be forwarded by a generous Diet; this Contrivance drives out the Malignity to the Part affected, and makes it impostumate, so that much of it is carried off; if the Abscess be large, and discharges plentifully, the Disease is lessen'd if not cur'd; I reckon a *Scurvy*, succeeding a Pox, lessen'd by a critical Abscess, to be the Case of many an old *Sire* complaining of Pains in his Bones, and which is easiest cur'd by *Antisphylics*; but, to say the Truth, few are cur'd of Poxes by Abscesses, there will be some Relicks, which deserve the Physicians utmost Care to eradicate, and they who neglect this Diligence will find, for the most Part, Reason to repent them. We meet daily with Pains, conceal'd under the gentle Name of rheumatic or scorbutic Pains, which are Off-springs of this Root, and the Physician needs not put a Patient to the Blush, nor mistake his Aim, if he blends Anti-venereals; they don't prejudice the rheumatic Blood, but they certainly amend the pocky Humours; nay, Mercurials attenuate any Viscid whatever, as may be seen by an easy Experiment, namely, by putting Serum into a small Tube, and by

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Heat, or acid Spirits thickning it; to the Liquor thus thicken'd, pour in Quicksilver, and toss them together, the Serum will recover its usual Liquidity, and flow backwards in the Tube, as before.

HAVING descended to the Particulars of Diet proper in most Diseases, give me leave to draw a few useful Cautions from thence, which follow necessarily from the Premises. Whoever attends the Sick, or advises the Healthy, must reflect with himself, how difficult a Task it is to prescribe a Diet proper for every Individual; *Custom* is a Tyrant in Diet, which makes those Victuals agreeable, a reasonable Person would never advise them to eat. How fares it with the Turks with their belov'd *Opium*? How do weak Stomachs bear strong Meats they have been accusom'd to, which vigorous Men will not venture upon? The Stomachs of some People are as much fashion'd to digest strong Meats, as the Shoulders of Porters are fitted, by Use, to bear heavy Loads; nice and delicate People shun giving their Stomachs much Trouble, but the voracious have us'd them to any Meats indifferently. So soon as Men recover out of an Illness, they crave the Victuals they have long us'd; the Stomach returning to its natural Tone, and the Ferment being the same as in Health, they long for that Food, they,

they, by Custom, have made natural to them: There is then in Custom some Harmony contracted between some Meats and Stomachs, that causes Persons us'd to them or liking them, to long after them; the strong Victuals some tender People eat with Pleasure and digest very well, would make Men of thrice their Strength puke up all within them: It must be then that the Stomach being accustom'd to bear the Load of heavy and dense Victuals, becomes more tense and elastic thereby, than theirs not us'd to them. Here a Physician not us'd to the Patient may be easily mistaken, having no Warning of the Strength of this Organ in this Individual; and for this Reason it is, that it is agreed on by all, that before we order any Diet, we ought to enquire into the customary Victuals of the Patients, and favour their Desires as much as the Nature of the Disease will allow; and indeed, when their Appetites are pall'd with every Thing that is judg'd proper for their Condition, but yet craves greedily and longs much after a very improper Repast for it, we are indispensibly oblig'd to follow this deprav'd Appetite, or suffer them to starve, and the meanest Physician is well acquainted that Conservation is the first and main Intention; so that in this Case we act as we do in Contra-Indications,
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that is, we relieve the most pressing Symptom, otherwise Life lies at Stake. If we except this Custom, our Business is to consider the Subjects we intend to nourish, whether it be to preserve it in Health, or to restore it from a Disposition to a Disease, or from an actual Distemper, and to reflect on the Nature of the Diet; *if they are in Health*, our Business is to continue it, by regulating the Quantity and the Quality of the Victuals, and the Seasons of their Repasts. They are in Health, whose Functions are well perform'd, and who have no Complaints to make; there is a just Proportion of Principles in their Juices, the watry Parts are not so plentiful as to drown the active Principles and hinder their Struggle, which gives Being to the Circulation and all our Secretions, nor so sparing as to suffer our Oils and Acids to approach too near each other, and so scorch us up, and destroy us with Fevers of any sort; this is that *Temperament* which the Ancients term'd *the moist and hot*, where the Moisture dilutes, but does not extinguish the Heat; where it serves as Water to *Phosphorus*, which without it would flame and consume all around; where the Heat rarefies the humid Parts and keeps them moving all Ways, and makes them fit to pass any Strainers, where it serves to throw off its Superfluities thro' the Pores

and Kidneys, and to perpetuate all our Secretions; this is the Standard we measure all Deviations by: How far we wander from this State, in which our Pulse beats regularly, our Respiration is free, our Appetite is sufficiently keen, our Digestion is perform'd without *Ructus*, Inflations, Heavinesses or Fluxes, our Urine is of a true Citron Colour with a concocted Sediment, our Heat is not scorching, nor yet are we chilly, so far we incline to a valetudinary one, or Diseases.

THE Quantity of Diet for the Sound, is best measur'd by their own Experience, which will inform them not to eat all they can: A sound Stomach craves more than it can digest, and we conclude, with Reason, that we have exceeded in our Meal, if we feel any Load and Belchings: Nice Cookery is a dangerous Bait, it catches the most abstemious, and all Rules are laid aside for the delicious Morfel: The Source of many Diseases is laid in the Stomach, we exceed in Quantity and Quality too; and if nothing can dissuade us from the Snare, at least let us follow the Wise-man's Advice, *Si nimius sis in epulis, surge è medio & evome, & sic non adduces Corpori tuo Infirmitatem.* We have seen already how many Diseases spring from Excess in Diet, and nothing, save Sobriety, Abstinence, Moderation, gentle Night-sweats, spontaneous Fluxes of indigested Matter, or gentle Vomiting, can

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prevent such Persons falling into Diseases; Vomiting and gentle Stools clear the Guts, and Sweating, the Vessels of the superfluous Load; so that by the first, Colicks and Gripings are prevented, and by the latter, Fevers and Defluxions.

NEXT to the Quantity, we ought to be careful to chuse such Diet as will give the Chyle no sour, no acerb, no austere, no saltish, no bitter, or no acrimonious Taste, but it ought to be middling in its Qualities; it should be temperate, smooth, well fermented, sweetish, juicy, soft and light: Whether the Meal consists of one or many Dishes, it ought to be so contriv'd, as, when dissolv'd, to afford Chyle approaching near to Milk in all its good Qualities; wherefore it cannot happen, that the Opulent should long continue in Health, their Feasts are so manag'd as to abound in high Seasons, or even Ice it self; they over-heat in Winter, and over-chill in Summer, and, having no Knowledge of the Nature of the Materials they feed upon, or of the Motions of the Fluids, they neither know what has prejudic'd them, nor what ails them. 'Tis not so easy as may be imagin'd, to guess what Diet swallow'd down and digested, will make a sweetish Chyle: Well may Patients be at a stand on this Point, when we see Physicians themselves disputing the Case; one recommends Pork, as most hard of Digestion, per-

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haps, because he is bred up with a Prejudice to it, or, because the Soil where he was born is ill Food for the Creature, or, because some prevailing Disease, for which it is incommodious, reigns in the Country he was born in; whereas, others having fine Conveniences for feeding them clean, being us'd to it from their Infancy, and delighting in a luscious Meal, commend it as the wholesomest of Foods: And, to say the Truth, where a Man has no aversion to this sort of Food, I can see no Reason to decry it, with Dr. *Cheyne*, as hard of Digestion. Are the Fibres of Pork dense? Is not its Juice sweet and luscious? It is therefore easily divided, and its sweet Juice is readily extracted, and it affords good Nourishment; however, it must be observ'd, some People can't bear it, by reason of its luscious Taste, it is apt, by that Quality, to ferment in the Stomach; but then we may reflect on the Idiosyncrasy of such Persons, or, perhaps they are of a Hypochondriac Constitution. I know, *Sanctorius* puts it in the Rank of Mushrooms, and says, *That the use of Swines-flesh and Mushrooms is bad both because these don't perspire, and because they hinder other Victuals also to perspire: And, upon the use of Swines-flesh and Mushrooms, the Body perspires, for the most part, less by one Third.* Then it plainly follows, that Bodies which Perspire too much, may bear Pork: But upon

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Examination we find, that all Persons of feverish Constitutions perspire too much ; and then the Consequence will be, that the most sickly will bear the Diet. This is much more than I contend for ; but it must certainly be allow'd a Nourishment, at all Adventures, proper for such as exercise much ; and therefore in *Spain* and *Italy*, where their *Siesta's* or Heats, oblige them to sit still or sleep, it may not be so proper Diet, as in *England*, where we exercise stoutly, and can digest, and do require that Food which won't fly off too soon ; because in those warmer Climates a certain Degree of Perspiration is requir'd, and they, being unwilling to break up a Custom, will not make use of Exercise to comminute their Fluids, and so fit them for Perspiration ; and therefore do they content themselves with a Diet suitable to their Custom : The People of *England* are an active stirring People, and can easily digest, nay, and do require, as I have already said, such Victuals, tho' by its Food it should be viscous. If we become Valetudinarians, either our Blood exceeds in Heat or Chillness ; If our Constitution be too warm, and our *Appetites* crave this sort of Food, the Warmth will digest it : If we are too chilly, Exercise will be necessary, and then it need not be denied them, if they *earnestly* crave it. As for my own Part, 'tis not Inclination that makes

me an Advocate for this Sort of Food, only when Men, without any Foundation, run too great Lengths in their Descants, 'tis not Reason, but Humour, that guides them: Hear *Jonson* on this Head; "*Suilla* pro ratione ætatis variat, Δελφάκων seu "*Lactantium* est humidior, Succi minime boni — *Adolescens* est melior, & bene nutrit — *Juvenum* cæteris præstat, potentissime nutrit, & firmum alimentum præbet; hominibus ætate florentibus & qui magnis laboribus exercentur, commo- diffima. *Decrepitorum* qui χῶργοι, est dura, insipida, melancholicorum morbo- rum parens, vino diluenda. *Aprugna*, tum quod nec ita excrementitia sit, neque viscosum succum progeneret domestica præstantior est." Swines-flesh varies according to its Age; a Sucking-Pig is too moist, its Juice is not wholesome, very young Swines-flesh is better, it *nourishes well*: Middle-aged is *best of all*, it *nourishes powerfully*, and affords *firm Food*, very convenient for Men and such as use *hard Labour*. The old is hard, insipid, and breeds melancholic Humours, and is to be diluted with Wine. The wild Swines-flesh is better than Tame, because it does not afford such *viscous Juices*. And thus it fares with all Food, if they are too flabby, or too hard, they are reputed too phlegmatic, or too dry; neither of which Conditions are proper for the

the Healthy; but when Age has brought their Juices to a good Consistence and Perfection, and made them smooth and juicy, their Nourishment is more or less balsamic, as it approaches to, or deviates from these Conditions. It is affirm'd by some, that twelve Ounces of Blood, contain eleven Ounces of Water: Be that how it may, 'tis our Business to maintain a certain Proportion of Principles in our Juices; if we exceed this Measure, we gradually dwindle into Diseases: But if the saline, the sulphureous and the earthy are only $\frac{1}{3}$ th of the Whole, it is then our Business to avoid Meats too salt, too dry or too watry: Wherefore a Diet consisting of any one of these, must of Course be naughty, and incline us to some Distemper. The Drinks made use of to dissolve and mix with our Victuals, should be partly watry, and partly oily, for all Dissolvents must be homogeneous with the Body to be dissolved, and our Diet being saline and oleous requires such Liquors, as are aqueous and oleous: Element alone would not always answer our End, for then the oily Parts would swim above, or subside; nor will, upon this Footing, the oleous ever so highly rarefied, serve the Turn in all Emergencies, for if we have surfeited upon a Diet too viscous and glutinous, Brandy can only twitch the Stomach, and send it

it down, but not dissolve or digest it; Here we must make use of *Tea* or *Coffee*, or some such Ingredients in warm Water, to enter into and comminute the Diet, and render it more fluid, that it may circulate freely, and pass thro' the minutest Canals of our Body, and afford good Nourishment: For want of such a Caution, we should presently labour under invincible Obstructions, and all their Consequences, which are too numerous to be inserted in these Sheets.

IN all the Instances of Life, too *homogeneous* a Diet is the certain Parent of Diseases; we must supply our Stomachs with Food duly proportion'd in Principles, and which is known to agree with the Person that takes it. Nourishment of all Oil, all Salt, all Water, or all Earth, is naught and vitious; the Chyle, and Blood, and Secretions would then necessarily fail: No, some Oil, less Salt, and least Earth, must be blended with a good deal of Water, and then a due Fermentation will be maintained. *Tachenius* somewhere affirms, that the $\frac{800}{1000}$ th Part of an acid Salt is sufficient to keep up a Fermentation with the other Salt or Oil it ferments with, and it appears by *Analysis* from *Vioussens*, that in 50l. of Blood there is not above half an Ounce of an acid Spirit to be got, and our *Transactions* observe, that Part of this also was owing

ing to the Bole it was distill'd with; from whence it is plain, that the Acid is not above a $\frac{1}{120}$. Part of the Whole, if so much. In short, if this mention'd Proportion be not observ'd, there is no Connection, no Digestion, no Circulation, no Secretions, nor can Life be continued long. All we take, rarefies and expands within us; *Oils* expand, in the same Time, double to *strong Acids*; and these double to *Water* or *weak Acids*; so that what *Hippocrates* said of old, to wit, *Olea, ex modicâ mole, multum diffunduntur*, proves true; Liquors, the more cohesive they are, boil and rarefy the sooner, because they retain more of the fiery Particles, whereas the less cohesive they are, the more readily does the Fire pass through them, and exhales. Now cohesive Fluids are unfit for Digestion, and the less we take of them the better; but yet a little of them is necessary to preserve the Consistence, and indeed without those Oils and Acids, there could be no Heat nor Digestion. Well therefore may we blame Persons feeding on oily and fat Nourishment, since it is impracticable for us to swallow so much of Acids, as will boil with them and digest them: So that I have often been amaz'd to see how greedily some Persons swallow the rankest of fat Victuals; it must surely pass downwards, or do hurt: *Oil* therefore, fat Meats, Butter, Olives, Nuts of all Kinds, should be

be sparingly fed upon. *Sours* are a dangerous Diet also to insist on; Vinegar, Lemons, Oranges, Pomegranates, and such-like, if used immoderately, coagulate the Oils of the Blood, and render it vastly sticking and glewy; Brandy helps to digest or dissolve an immoderate Meal of Fats, being homogeneous to them, and also blunts the Points of Acids, as appears in making rectify'd Spirits of Nitre sweet; so that if we have offended in either, a Dram is not amiss; and we observe, that they whose Stomachs abound with Eagerness, pass their Time ill without a Dram in Moderation: When Acids abound too much in the Stomach, they either give a voracious Appetite, or cause racking Pains; but in either Case, Brandy is good: *Dekkers*, whatever *Waldschmidt* says to the contrary, is in the right to commend *Spirits of Wine*, and *Aqua Vita*, in the Dog-Appetite, because, as I have hinted above, it dulcifies the Sour. *Oils* therefore, whether crude or rarefied, and Acids, whether raw or concentrated, *alone*, are naught for human Bodies; but when they are well blended by Nature or Art into a Sweet, or near to it, and are afterwards judiciously diluted with a sufficient Quantity of Water, so as to be fluid enough, there is so much of Cohesion in the Mixture as is requisite, and no more, they will by several Circulations and further Digestion be fitted to take Fire,
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and ferment in our Blood, and keep up that Heat which is agreeable, and frame that Composition, which is specific to our Natures. The same Mechanism holds in Plants; they suck from the Earth into their Pores, oily, earthy, and acid Particles, they are watred from Heaven at due Seasons, these Juices are blended and circulate in proper Tubes, the Heat of the Sun gives Life to this Digestion, and they are exalted into a specific Juice. A judicious Mixture, therefore of Oils, Acids, Earth, and Water, which become moderately sweet, are agreeable to our Nature; our Blood is not the worse, but better, for containing *Phosphorus* in it, and yet *Phosphorus* is very caustick. It appears by *Baldwin's Phosphorus*, that Chalk contains an Oil, as may be guess'd at by its Smoothness and Smell, and making Salts crySTALLIZE sooner, as Spirit of Wine does, which by the concentrated acid Spirit, and the help of Fire, unites into a luminous Caustic: *Phosphorus*, therefore, is pure Oil and Acid united, which, expos'd, ferment into Flame, and which diluted in our Blood, keep up our moderate Heat and Fermentation, and is the Original of Life in our Juices, and in Plants also. What Injury then can *Punch*, truly made and moderately taken, and drank in proper Constitutions, though valetudinary, do to Mortals? It gives Spirits, keeps up our Fermentation, encrea-

encreases our Heat, promotes Perspiration, gives an Edge to our Appetite, provokes Urine, keeps our Bodies open, and refreshes the Drooping: In short, I advise the Healthy to drink it in Moderation to keep up their Spirits, and let Valetudinarians of a cold phlegmatic and watry Constitution, drink as much as will agree with them; but at the same time I advise, by all means, the Bilious, the Hot and Hectical, to forbear it: When we hear it superlatively commended or disprais'd by Physicians for every Constitution, sound or valetudinary, 'tis either a Collusion, a Banter, or Ignorance.

It requires a deep Skill in the *Materia medica*, to determine on the prevailing Principles of every Diet; and without this Knowledge, we dispraise and commend out of Tune. Besides, when we know our *Meat*, we are yet to know our *Man*; and we must fit *this Diet* to *this Individual*. *Custom*, *Idiosyncrasy*, and *Reason* rule in Commission, they make but one Monarch; Reason is youngest, and gives Custom or Idiosyncrasy the Honour of the casting Vote; 'tis too dead a Weight for Reason to contest with: But where this Custom or Idiosyncrasy have not taken place, Reason steps in, and gives Laws.

So that a Physician, before he prescribes any Diet proper for his Patients Condition, says, Have you been us'd to this Diet, which
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is so disagreeable to your Disease? Or, This Diet is proper for your Circumstances, but have you no Aversion to it? According to their Answer we must proceed: For if a Diet improper for them has been a customary Meal, tho' hard to be digested by others, and if it be much coveted, we may grant them some Liberty on this Head: And if a Diet very proper for their Condition be order'd, but was observ'd never to agree with them, it must be forbid.

FROM which Principles we must conclude, that *in Health* Diet must maintain that Symmetry in their Juices which their Nature is accustom'd to; and *in Sickness* we are to give a Diet directly opposite to their Disorder, so far as Custom or their peculiar Nature will allow. I have descended to such Particulars in this Diet as did lie in my way, leaving the Remainder in part to be cull'd out of my *Euodia*, but more fully out of other Writers on the *Materia medica*.

C H A P.



C H A P. III.

Of Motion and Rest.

EXERCISE has a great share in introducing or staving off Diseases; by it our Juices are press'd into the minutest Channels; we move by the Assistance of our Muscles, they upon Motion change their Figures, as do the Vessels stretching themselves along them, and also among their Fibres; as the Muscles swell, the Vessels are squeez'd and emptied, and as those sink, these fill again: Exercise then causes an artificial *Systole* and *Diastole* in the Veins, and Lymphatics, and in the other Vessels and Tubes; that is, it sends the Blood forward, and continues a Circulation: 'Tis therefore of great Importance to know how to regulate the Sound or Sick's Exercise; for, by this we are inform'd of the Standard of their specific Habit: That Degree of Motion, which is perform'd without leaving a Lassitude behind it, is agreeable to the Constitution of the Person moving or mov'd; for, if the Expression can be allow'd of, there is a *passive Motion*, which of all others is the most suitable to Nature: By such a Motion

Heat, or acid Spirits thickning it; to the Liquor thus thicken'd, pour in Quicksilver, and tofs them together, the Serum will recover its usual Liquidity, and flow backwards in the Tube, as before.

HAVING descended to the Particulars of Diet proper in most Diseases, give me leave to draw a few useful Cautions from thence, which follow necessarily from the Premises. Whoever attends the Sick, or advises the Healthy, must reflect with himself, how difficult a Task it is to prescribe a Diet proper for every Individual; *Custom* is a Tyrant in Diet, which makes those Victuals agreeable, a reasonable Person would never advise them to eat. How fares it with the Turks with their belov'd *Opium*? How do weak Stomachs bear strong Meats they have been accustom'd to, which vigorous Men will not venture upon? The Stomachs of some People are as much fashion'd to digest strong Meats, as the Shoulders of Porters are fitted, by Use, to bear heavy Loads; nice and delicate People shun giving their Stomachs much Trouble, but the voracious have us'd them to any Meats indifferently. So soon as Men recover out of an Illness, they crave the Victuals they have long us'd; the Stomach returning to its natural Tone, and the Ferment being the same as in Health, they long for that Food,

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prevent such Persons falling into Diseases; Vomiting and gentle Stools clear the Guts, and Sweating, the Vessels of the superfluous Load; so that by the first, Colicks and Gripings are prevented, and by the latter, Fevers and Defluxions.

NEXT to the Quantity, we ought to be careful to chuse such Diet as will give the Chyle no sour, no acerb, no austere, no saltish, no bitter, or no acrimonious Taste, but it ought to be middling in its Qualities; it should be temperate, smooth, well fermented, sweetish, juicy, soft and light: Whether the Meal consists of one or many Dishes, it ought to be so contriv'd, as, when dissolv'd, to afford Chyle approaching near to Milk in all its good Qualities; wherefore it cannot happen, that the Opulent should long continue in Health, their Feasts are so manag'd as to abound in high Seasons, or even Ice it self; they over-heat in Winter, and over-chill in Summer, and, having no Knowledge of the Nature of the Materials they feed upon, or of the Motions of the Fluids, they neither know what has prejudic'd them, nor what ails them. 'Tis not so easy as may be imagin'd, to guess what Diet swallow'd down and digested, will make a sweetish Chyle: Well may Patients be at a stand on this Point, when we see Physicians themselves disputing the Case; one discommends Pork, as most hard of Digestion, per-

haps, because he is bred up with a Prejudice to it, or, because the Soil where he was born is ill Food for the Creature, or, because some prevailing Disease, for which it is incommodious, reigns in the Country he was born in; whereas, others having fine Conveniences for feeding them clean, being us'd to it from their Infancy, and delighting in a luscious Meal, commend it as the wholesomest of Foods: And, to say the Truth, where a Man has no aversion to this sort of Food, I can see no Reason to decry it, with Dr. *Cheyne*, as hard of Digestion. Are the Fibres of Pork dense? Is not its Juice sweet and luscious? It is therefore easily divided, and its sweet Juice is readily extracted, and it affords good Nourishment; however, it must be observ'd, some People can't bear it, by reason of its luscious Taste, it is apt, by that Quality, to ferment in the Stomach; but then we may reflect on the Idiosyncrasy of such Persons, or, perhaps they are of a Hypochondriac Constitution. I know, *Sanctorius* puts it in the Rank of Mushrooms, and says, *That the use of Swines-flesh and Mushrooms is bad both because these don't perspire, and because they hinder other Victuals also to perspire: And, upon the use of Swines-flesh and Mushrooms, the Body perspires, for the most part, less by one Third.* Then it plainly follows, that Bodies which Perspire too much, may bear Pork: But upon

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Examination we find, that all Persons of feverish Constitutions perspire too much; and then the Consequence will be, that the most sickly will bear the Diet. This is much more than I contend for; but it must certainly be allow'd a Nourishment, at all Adventures, proper for such as exercise much; and therefore in *Spain* and *Italy*, where their *Siesta's* or Heats, oblige them to sit still or sleep, it may not be so proper Diet, as in *England*, where we exercise stoutly, and can digest, and do require that Food which won't fly off too soon; because in those warmer Climates a certain Degree of Perspiration is requir'd, and they, being unwilling to break up a Custom, will not make use of Exercise to comminute their Fluids, and so fit them for Perspiration; and therefore do they content themselves with a Diet suitable to their Custom: The People of *England* are an active stirring People, and can easily digest, nay, and do require, as I have already said, such Victuals, tho' by its Food it should be viscous. If we become Valetudinarians, either our Blood exceeds in Heat or Chillness: If our Constitution be too warm, and our *Appetites* crave this sort of Food, the Warmth will digest it: If we are too chilly, Exercise will be necessary, and then it need not be denied them, if they *earnestly* crave it. As for my own Part, 'tis not Inclination that makes

me an Advocate for this Sort of Food, only when Men, without any Foundation, run too great Lengths in their Descants, 'tis not Reason, but Humour, that guides them: Hear *Jonston* on this Head; "*Suilla* " *pro ratione ætatis variat*, *Δελφῶνων* feu "*Lactantium* est humidior, Succi minime "*boni* — *Adolescentum* est melior, & bene "*nutrit* — *Juvenum* cæteris præstat, potentissime nutrit, & firmum alimentum "*præbet*; hominibus ætate florentibus & "*qui magnis laboribus exercentur*, commodissima. *Decrepitorum* qui *χοῖροι*, est "*dura*, insipida, melancholicorum morborum parens, vino diluenda. *Aprugna*, "*tum quod nec ita excrementitia sit*, neque "*viscosum succum progeneret* domestica præstantior est." Swines-flesh varies according to its Age; a Sucking-Pig is too moist, its Juice is not wholesome, very young Swines-flesh is better, it *nourishes well*: Middle-aged is *best of all*, it *nourishes powerfully*, and affords *firm Food*, very convenient for Men and such as use *hard Labour*. The old is hard, insipid, and breeds melancholic Humours, and is to be diluted with Wine. The wild Swines-flesh is better than Tame, because it does not afford such *viscous Juices*. And thus it fares with all Food, if they are too flabby, or too hard, they are reputed too phlegmatic, or too dry; neither of which Conditions are proper for the

the Healthy; but when Age has brought their Juices to a good Consistence and Perfection, and made them smooth and juicy, their Nourishment is more or less balsamic, as it approaches to, or deviates from these Conditions. It is affirm'd by some, that twelve Ounces of Blood, contain eleven Ounces of Water: Be that how it may, 'tis our Business to maintain a certain Proportion of Principles in our Juices; if we exceed this Measure, we gradually dwindle into Diseases: But if the saline, the sulphureous and the earthy are only $\frac{1}{2}$ th of the Whole, it is then our Business to avoid Meats too salt, too dry or too watry: Wherefore a Diet consisting of any one of these, must of Course be naughty, and incline us to some Distemper. The Drinks made use of to dissolve and mix with our Victuals, should be partly watry, and partly oily, for all Dissolvents must be homogeneous with the Body to be dissolved, and our Diet being saline and oleous requires such Liquors, as are aqueous and oleous: Element alone would not always answer our End, for then the oily Parts would swim above, or subside; nor will, upon this Footing, the oleous ever so highly rarefied, serve the Turn in all Emergencies, for if we have surfeited upon a Diet too viscous and glutinous, Brandy can only twitch the Stomach, and send it

it down, but not dissolve or digest it: Here we must make use of *Tea* or *Coffee*, or some such Ingredients in warm Water, to enter into and comminute the Diet, and render it more fluid, that it may circulate freely, and pass thro' the minuteſt Canals of our Body, and afford good Nourishment: For want of such a Caution, we should presently labour under invincible Obstructions, and all their Consequences, which are too numerous to be inserted in these Sheets.

IN all the Instances of Life, too *homogeneous* a Diet is the certain Parent of Diseases; we must supply our Stomachs with Food duly proportion'd in Principles, and which is known to agree with the Person that takes it. Nourishment of all Oil, all Salt, all Water, or all Earth, is naught and vitious; the Chyle, and Blood, and Secretions would then necessarily fail: No, some Oil, less Salt, and least Earth, must be blended with a good deal of Water, and then a due Fermentation will be maintained. *Tachenius* somewhere affirms, that the $\frac{1}{800}$ th Part of an acid Salt is sufficient to keep up a Fermentation with the other Salt or Oil it ferments with, and it appears by *Analysis* from *Vioussens*, that in 50l. of Blood there is not above half an Ounce of an acid Spirit to be got, and our *Transactions* observe, that Part of this also was owing

ing to the Bole it was distill'd with; from whence it is plain, that the Acid is not above a $\frac{1}{120}$. Part of the Whole, if so much. In short, if this mention'd Proportion be not observ'd, there is no Connection, no Digestion, no Circulation, no Secretions, nor can Life be continued long. All we take, rarefies and expands within us; *Oils* expand, in the same Time, double to *strong Acids*; and these double to *Water* or *weak Acids*; so that what *Hippocrates* said of old, to wit, *Olea, ex modicâ mole, multum diffunduntur*, proves true; Liquors, the more cohesive they are, boil and rarefy the sooner, because they retain more of the fiery Particles, whereas the less cohesive they are, the more readily does the Fire pass through them, and exhales. Now cohesive Fluids are unfit for Digestion, and the less we take of them the better; but yet a little of them is necessary to preserve the Consistence, and indeed without those Oils and Acids, there could be no Heat nor Digestion. Well therefore may we blame Persons feeding on oily and fat Nourishment, since it is impracticable for us to swallow so much of Acids, as will boil with them and digest them: So that I have often been amaz'd to see how greedily some Persons swallow the rankest of fat Victuals; it must surely pass downwards, or do hurt: *Oil* therefore, fat Meats, Butter, Olives, Nuts of all Kinds, should be

be sparingly fed upon. *Sours* are a dangerous Diet also to insist on; Vinegar, Lemons, Oranges, Pomegranates, and such-like, if used immoderately, coagulate the Oils of the Blood, and render it vastly sticking and glewy; Brandy helps to digest or dissolve an immoderate Meal of Fats, being homogeneous to them, and also blunts the Points of Acids, as appears in making rectify'd Spirits of Nitre sweet; so that if we have offended in either, a Dram is not amiss; and we observe, that they whose Stomachs abound with Eagerness, pass their Time ill without a Dram in Moderation: When Acids abound too much in the Stomach, they either give a voracious Appetite, or cause racking Pains; but in either Case, Brandy is good: *Dekkers*, whatever *Waldschmidt* says to the contrary, is in the right to commend *Spirits of Wine*, and *Aqua Vita*, in the Dog-Appetite, because, as I have hinted above, it dulcifies the Sour. Oils therefore, whether crude or rarefied, and Acids, whether raw or concentrated, *alone*, are naught for human Bodies; but when they are well blended by Nature or Art into a Sweet, or near to it, and are afterwards judiciously diluted with a sufficient Quantity of Water, so as to be fluid enough, there is so much of Cohesion in the Mixture as is requisite, and no more, they will by several Circulations and further Digestion be fitted to take Fire,

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and ferment in our Blood, and keep up that Heat which is agreeable, and frame that Composition, which is specific to our Natures. The same Mechanism holds in Plants; they suck from the Earth into their Pores, oily, earthy, and acid Particles, they are watred from Heaven at due Seasons, these Juices are blended and circulate in proper Tubes, the Heat of the Sun gives Life to this Digestion, and they are exalted into a specific Juice. A judicious Mixture, therefore of Oils, Acids, Earth, and Water, which become moderately sweet, are agreeable to our Nature; our Blood is not the worse, but better, for containing *Phosphorus* in it, and yet *Phosphorus* is very caustick. It appears by *Baldwin's Phosphorus*, that Chalk contains an Oil, as may be guess'd at by its Smoothness and Smell, and making Salts crySTALLIZE sooner, as Spirit of Wine does, which by the concentrated acid Spirit, and the help of Fire, unites into a luminous Caustic: *Phosphorus*, therefore, is pure Oil and Acid united, which, expos'd, ferment into Flame, and which diluted in our Blood, keep up our moderate Heat and Fermentation, and is the Original of Life in our Juices, and in Plants also. What Injury then can *Punch*, truly made and moderately taken, and drank in proper Constitutions, though valetudinary, do to Mortals? It gives Spirits, keeps up our Fermentation,

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encreases our Heat, promotes Perspiration, gives an Edge to our Appetite, provokes Urine, keeps our Bodies open, and refreshes the Drooping: In short, I advise the Healthy to drink it in Moderation to keep up their Spirits, and let Valetudinarians of a cold phlegmatic and watry Constitution, drink as much as will agree with them; but at the same time I advise, by all means, the Bilious, the Hot and Hectical, to forbear it: When we hear it superlatively commended or disprais'd by Physicians for every Constitution, sound or valetudinary, 'tis either a Collusion, a Banter, or Ignorance.

It requires a deep Skill in the *Materia medica*, to determine on the prevailing Principles of every Diet; and without this Knowledge, we dispraise and commend out of Tune. Besides, when we know our *Meat*, we are yet to know our *Man*; and we must fit *this Diet* to *this Individual*. *Custom*, *Idiosyncrasy*, and *Reason* rule in Commission, they make but one Monarch; Reason is youngest, and gives Custom or Idiosyncrasy the Honour of the casting Vote; 'tis too dead a Weight for Reason to contest with: But where this Custom or Idiosyncrasy have not taken place, Reason steps in, and gives Laws.

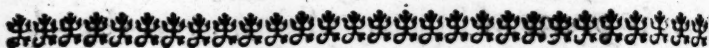
So that a Physician, before he prescribes any Diet proper for his Patients Condition, says, Have you been us'd to this Diet, which
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is so disagreeable to your Disease? Or, This Diet is proper for your Circumstances, but have you no Aversion to it? According to their Answer we must proceed: For if a Diet improper for them has been a customary Meal, tho' hard to be digested by others, and if it be much coveted, we may grant them some Liberty on this Head: And if a Diet very proper for their Condition be order'd, but was observ'd never to agree with them, it must be forbid.

FROM which Principles we must conclude, that *in Health* Diet must maintain that Symmetry in their Juices which their Nature is accusom'd to; and *in Sickness* we are to give a Diet directly opposite to their Disorder, so far as Custom or their peculiar Nature will allow. I have descended to such Particulars in this Diet as did lie in my way, leaving the Remainder in part to be cull'd out of my *Euodia*, but more fully out of other Writers on the *Materia medica*.

C H A P.



C H A P. III.

Of Motion and Rest.

EXERCISE has a great share in introducing or staving off Diseases; by it our Juices are press'd into the minutest Channels; we move by the Assistance of our Muscles, they upon Motion change their Figures, as do the Vessels stretching themselves along them, and also among their Fibres; as the Muscles swell, the Vessels are squeez'd and emptied, and as those sink, these fill again: Exercise then causes an artificial *Systole* and *Diastole* in the Veins, and Lymphatics, and in the other Vessels and Tubes; that is, it sends the Blood forward, and continues a Circulation: 'Tis therefore of great Importance to know how to regulate the Sound or Sick's Exercise; for, by this we are inform'd of the Standard of their specific Habit: That Degree of Motion, which is perform'd without leaving a Lassitude behind it, is agreeable to the Constitution of the Person moving or mov'd; for, if the Expression can be allow'd of, there is a *passive Motion*, which of all others is the most suitable to Nature: By such a Mo-

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attempted where the Solids are highly injur'd, or when they are past Repair; for what can we then expect but Breaches of the Vessels, and other dismal Consequences? In general, where the Blood is viscous, and the Fibres are *relaxed only*, Exercise is conducive to attenuate it, and to re-brace them; but if they are broken, distorted, or compressed, if they adhere, or coalesce; if they be inflam'd or ulcerated; if they have chang'd their Connexion, or are become too hard and rigid, or too small, what has Exercise to do with such Cases? And how plain is it, that Persons become asthmatic from all these Causes? A Lymphatic, for Example, breaks in the Cavity, and continually ouzing into it, the Lungs can't expand, and Exercise only forces them to breathe short, and makes the Breach to ouse faster, and does harm. Suppose a Polypus in the Vessels, Exercise, by hastening the Blood's Motion forwards, endangers a Rupture of a Vessel: If the Lungs adhere strictly to the Pleura, Exercise gives Pain, but no Relief; If any Number of Vesicles become stopp'd up, or grow together, of what Force is Exercise? It hurries the Blood's Motion on, and some Vessels being impassible, others suffer the Load, and then it makes them breathe shorter, without contributing any Advantage. All the World know Exercise neither agrees with Inflammations

mations or Ulcers. If the Vessels, are permanently inflated, and Dr. *Tyson* relates such a Case, or are become too rigid, Exercise endangers a Breach of Vessels, because an excessive Swelling of the pervious ones, by too hasty a Motion of the Fluids thro' them, cracks them; and how many Ways can Asthma's be caus'd secondarily, where Exercise can't be attempted, is manifest and obvious enough to all the Faculty? Can an Asthma from an Ascites, from a Scirrhus of the Liver, from a Straitness of the Chest, be reliev'd by Exercise? So that for Dr. *Cheyne* to give so positive and general Directions for Asthmatics to use Exercise, where 'tis greater Odds than Forty to one, the Patients would be ruin'd by the Advice, plainly shews a great Inadvertency in the Adviser. And *Lommius* * upon *Celsus*, says, that a quick Walking threatens the Breach of some great Vessel, and loud Speaking fatigues the Lungs.

THE Advantages we reap by Exercise are numerous; Life it self consists in the circular and intestine Motions of our Fluids, and their uninterrupted Passage thro' Channels truly fram'd; and *Death* is a Cessation of the circular Motion thro' them, to which is added a putrefactive Fermentation: *Dis-*

* *Celer cursus grandis alicujus vasis disruptionem minuat, ac vocis altæ pulmōni totiꝑ; thoraci negotium facessunt.*

eases then are Faults in the Qualities, Quantities, or Motions of our Fluids and Solids, tending to destroy the regular and stated Symmetry of these Fluids and Solids. Where the Juices are apt to move heavily forward, or to grow too gross, by some Misapplication of our Non-naturals, Exercise is a *Succedaneum* for Medicines that exagitate the Juices; and *Vice versâ*, where the Blood moves too fast, and the Juices are too thin, *Rest* contributes its Share to retard the Circulation, and to thicken the Blood. When the Circulation, as Affairs stand, is equable, the whole *Oeconomy* is regular, our Secretions are thrown off in due Time and Quantity, and we are in perfect Ease: Motion makes the Blood visit the most extreme Parts, and Steams are thrown out by the Pores in a proper Quantity: Nay, if the Pores happen to be obstructed by unwarily exposing our selves to the cold or wet Seasons, Exercise with due Cautions will restore this Secretion, and prevent Diseases, which are many, arising from this Obstruction.

HOWEVER, Exercise must be exactly proportion'd to the Constitutions of the Persons using it, if they design to preserve Health: If when moderately us'd, it promotes Perspiration, and sets all our Juices in Action, it must follow, that the Quantity of them will abate by immoderate Exercise, and they will be apt to become sharp, acrimonious, or bilious; as also the Hurry will be too great

great in the Vessels ; and then Fevers, Hectics, and all the Train of warm Diseases will ensue ; for where the more watry Parts steal off in Vapours, the various Salts are left in our Vessels, which frame Bile, volatile, salso-acids, or other Salts, as the Mixture is at that time constituted within, and which introduce Diseases suitable to the known Nature of the prevailing Humour : And if, on the other Hand, we lead an unactive or sedentary Life, we must expect a phlegmatic, watrish, or sour Blood, and must necessarily fall into Diseases of a cold Nature.

THE Reason why Exercise is not to be us'd immediately upon a Meal, is, because at that time Nature is employ'd upon Digestion ; for the Work of Concoction requires a Ferment in the Stomach, and an Afflux of Blood and Spirits into the Abdominal Muscles, the Vessels and the Nerves, which make that Organ compress the Victuals more vigorously ; but Exercise at that Season would determine the Blood and Spirits into Tracts suitable to the Nature of it, and would call off a great share of both into the Parts moving, whereupon the Stomach and Muscles would be depriv'd of their due Quantity, and would thereby become lax, and unapt to communicate our Victuals, so that they would pass thro' the *Pylorus* half digested ; that is, with their Juices wrapp'd up in their Fibres, and as they are not ex-

tracted, so they can't be chang'd, but would pass down to the *Anus*, and be thrown out. If such Juices chance to be extricated at the Mouths of the Lacteals, and are there suck'd in among the rest which are duly attenuated, 'tis easy to guess what a Medley it will make in the Mass of Blood, namely, a *rudis indigestaque moles*, a sour, gross, undigested Liquor, and then it serves to the bad Purposes of corrupting the whole Mass, of spoiling the Secretions, and, particularly, the cortical Part of the Brain, being a Passage for æthereal Matter, will not separate Spirits. If there be no Extraction of the Tincture, the Meat descends, and is thrown out very little chang'd, and gives us that Disease call'd a *Cæliac Passion*: From which Considerations it appears, that upon Exercise after Meals, either the Victuals are hurried out of the Stomach too precipitately, or are left there undigested: From which Mistakes, we are either depriv'd of Nourishment, and dwindle into Atrophies, or are infested with Wind, Inflations, Sickness, Belchings, and Loads at Stomach; for which Reason, there is a Call for Drams, to send the Contents down into the Guts. The fittest Season then for Exercise, is after a Meal has been thoroughly distributed into the Vessels, for at that time it is in the Course of Circulation, and by Motion, the gross Parts are divided into minute Corpuscles,

pulses, and fitted to pass all the Secretions: *Sanctorius* thinks seven or twelve Hours after Victuals to be the best Time; but then he tells us, in the foregoing *Aphorism*, that large Exercise before Meals is prejudicial; and then this Question might be started, to wit, When is the properest Time for such as eat thrice a Day, to use Exercise? That Exercise requir'd to set a Breakfast off, would not come in play till the next Meal were compleated, and we should be oblig'd, upon such a Supposition, seldom or never to stir: And were it so slow as Dr. *Cheyne* would have it, * and this Rule were to hold good, Exercise would never be in use: Methinks one Experiment is hardly sufficient to determine on the Progress of the Remains of our Victuals to the *Anus*, or I might, with the same Justice, conclude, that twelve Days time is requir'd, having known a small Penknife to have been swallow'd and deliver'd in that Space: However, as I'm not so much in jest as the Doctor seems to be, do we not observe, that the *Fæces* of such as drink Red-wine are black next Morning; and do they not render the Topers of it costive in that Space? Do we not experience this Consequence in Fluxes every day? Some few Cups of Red-wine burnt and drank down, will often, in six Hours, stop the

* Pag. 118.

Flux, and dye the Stools black in less than six more: A Draught of Steel-wine has often surpriz'd the Patient in less than twelve Hours, and fill'd their Heads with odd Notions of some strange Change in their Constitutions, from the dirty Hue it gives to their Stools; besides, the Constitution of one Person differs widely from that of another; all Digestions are not compleated in the same Space, and, moreover, the same Experiment would not answer a second Time in the same Individual, or the Almond might meet with Damms at one time, which it might escape on a second Trial; a little more Liquor, or a little more Exercise, would have driven it sooner out at the above-nam'd Door. But to return to the Question; I believe three Hours after Meals, generally speaking, is a proper Time to exercise, because I have frequently taken notice, that upon Bleeding in less than that Space after Dinner, the Chyle has always been observ'd Swimming plentifully in the Serum; so that in or near that Space Motion would contribute to thin this Chyle, and send it round the Body into all the proper Strainers.

WE are to observe the Nature of the Exercise, and the Strength of the Mover: Strong Exercise for the weak is an Inconsistence, and weak for the strong is insufficient. Moreover, a small Meal requires pro-

proportionable Exercise, and it fares well with us, if a long Tennis-match will take off too full a Dinner and Supper : Sweats, in such a Supposition, are of use ; and *Hippocrates* long ago found, that Night-Sweats took off the bad Effects of too full a Meal, for all Evacuations are the Remedies of Repletions, and Art is oblig'd to follow Nature's Footsteps : But she, in such a Case, throws off the offending Quantity by the Pores, and therefore it is lawful for us to imitate her, and by Exercise to promote Perspiration, and even Sweats, if need be ; it would require a long Time for too full Meals to exhale in Steams, which is soon done by Sweats : It would, however, be prejudicial to Nature, to feed much, because we find an easy Remedy for it ; for tho' this Artifice will carry it off, yet if we accustom our selves to this Evacuation frequently, the Pores will become flabby thereby, and we will be liable to catch Colds continually ; because the more open our Pores are, the more they separate, and the greater will be the Retention upon Cold ; so that by frequent Openings and Shuttings, we shall put Nature upon the Rack of Extremes : A Vomit is an Evacuation which cuts off the Effects of a full Meal in an Instant ; but who would venture upon such Excesses, because they know a Remedy : 'Tis true, it may serve the Turn upon

upon an Emergency, but it would at last destroy the Tone of the Stomach. Men who are used to fuddling Bouts can best inform us on this Head; they tumble into Bed with their Bellies and Heads full of hot inflaming Liquors; full of a Load they can't digest; in the Morning they are squeamish, and they force their Stomachs to give them an Account of their Debauches; they stretch and reach some small Remains off; but, alas! the far greater Part is got beyond it, and must be carry'd another Way: Upon such repeated Bouts, the Stomach is too clean wash'd to contain any natural Ferment in it; the Secretion is made, indeed, as usual, but loaded with many exotic Particles, which rather inflame the Part than gently vellicate it; the Spirits by their unusual Twitching run a-pace into the Fibres of it, and the Muscles; and it is ever and anon excited to cast up its Contents upon the least Weight thrown into it: So fares it with constant Strainings, the natural Ferment is emptied, and more is invited into it before it is ready for the Work, and, by Degrees, the Stomach is destroy'd. Parts will suffer, if Humours are carry'd through them where Nature never design'd it, or where more are discharg'd through them, altho' destin'd for that Work, than what is natural: And therefore in such Cases, where the Consequences of immoderate Exercise
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are prejudicial, and enough of it cannot be used to answer the End, we should content our selves with a moderate Use of it, and supply that Defect by some of its fellow Non-naturals, which contribute towards our Design. For Example: There are certain Appearances that our Juices are too gross, and Exercise alone can't be sufficient to attenuate them, because the Expence of Spirits we are at by moving, would encrease the Viscidity by exhaling them; we must then remove into a warmer Air; we must use an attenuating Diet, we must sleep little; we must promote Perspiration, be chearful, and great Application to Studies must be shunn'd: These are *Succedanea* for a Deficiency in Exercise; they rarefy our Juices, re-dissolve the Coagulations, invigorate our Fibres, and agitate our Spirits, by which the Blood is mov'd regularly forward, the Secretions are kept in due Order, the Blood is render'd thin, the Phlegm is agitated, the Spirits are again rightly separated, and all our Functions re-commence in an exact Manner, and Health is thereby recall'd, even without the Help of Medicines, if the Deviations from it were not excessive.

AMONG all Exercises whatever, those of the Mind are most surprizing: For how unaccountable is it to see Men grow meagre or fat, by their Application or Indulgence?

gence? Let some feed ever so plentifully, yet if they study hard, or fret much, these delicate Repasts will not fatten them, their Juices turn eager, and run the Blood into Concretions, and great Quantities of Water drain them insensibly: Obstructions ensue, Consumptions and Hypochondriacisms waste them insensibly away; whereas, on the other hand chearful People, and they who fret at nothing, with moderate Stomachs, will be plump'd up and be vigorous, the Spirits are plentifully bred, the Heart is briskly mov'd, the Circulation is urg'd on regularly, the Secretions, among which I reckon *Perspiration*, are exactly perform'd, the Blood is equable in its Mixture, and Health is preserv'd. But more of *these* anon.

REST is opposite to Motion; and if Motion has its Advantages, Rest also does not want its Conveniencies: For where the Blood moves too quick, or ferments too much, Rest and a convenient Posture do often calm its Fury. In Hemorrhages this evidently appears; for in an immoderate Flux of the *Menses*, an erect Posture will make that Flux elude the Force of the most powerful Astringents: But, on the other hand, in Bleedings at the Nose, an erect Posture, must be commanded, because the Blood's Motion upwards is retarded by such a Situation, but forwarded by any other,

ther, as it inclines more to a Slope. If Rest calms the Motion of the Fluids, it also unbends our Fibres, and cures their Rigidity, so that where the Perspiration is too expensive, it puts a Check to it, and we recover those Lassitudes brought on by too many Evacuations; and whereas Excess of Motion brings on Rigidities of our Fibres, it hastens old Age: *Rest* relaxes them, and keeps the miliary Glands and all others open, and helps to prolong Life. It is easy to know when we exceed in an unactive and sedentary Life, because the Water begins to grow pale, and contains a large, gross, white Sediment, the Colour of their Cheeks grows pale and wan, the Spittle grows thick and clammy, the Stools are cover'd over with a *Mucus*, and are not thrown off at proper Seasons, their Stomachs are infested with Wind and sour Belches, their Heads grow heavy and dull, and their Spirits are not free, their Appetites fail, and they feel weighty to themselves, and at last their native Heat decays.

WHERE Rest is necessary to repair a Weakness on a sudden, the horizontal Posture is of all the most convenient, because where the Heart, from the want of Spirits, cannot with Ease throw the Blood equally to all Parts, the lower will be fill'd, and the upper will be depriv'd of their due Quantities; but this Posture contributes to
make

make all share and return alike ; so that Strength will be equally distributed to the whole Body : And moreover, in this Situation, the Heart is propp'd and bore up, and admits a larger Quantity of Spirits to perform its Functions ; and we see how naturally Persons drooping after Blood-letting prevent Swooning upon lying down.

WHERE Rest alone is not a sufficient Relief for the Repair of Damages done us, we must look out for Assistance among the other Non-naturals ; the Air must be cool, the Diet incrassating, our Evacuations must be proportion'd to the Case in hand, our Passions must be calm, and Sleep must be encourag'd : For as Rest checks all Excesses in the Motions of our Fluids, where it can't amount to do the Feat of itself, if they would avoid Expences, they must have recourse to all the Assistance Nature affords them, which however is all too little when Diseases have taken footing ; we therefore speak principally of sickly and unhealthful Constitutions, when Diseases are in their Infancy ; for if once they have commenc'd, they must call for proper Assistance, and take every Prescription order'd carefully, as also must observe a due Regimen of Non-naturals, without which Caution the best Methods would prove ineffectual. A Regimen therefore and true Methods must, in such a Supposition, go hand in hand, and
mutu-

mutually concur to re-instate the Diseas'd. Both are often too weak for compleating our Purpose; then the Physician must make a fatal Prognostic, and leave it to the Choice of the Patients, whether they are inclin'd to stop or go forward in prolonging Life.

Motion then, if *moderate*, promotes or supplies the Deficiency of Perspiration, makes our Bodies lighter, promotes the sensible Evacuations; it *immoderate*, it hardens the Fibres, hinders Perspiration, makes us lighter, and makes us sweat; because a moderate Exercise moves the Blood gently, makes the Steams fly off by the Pores, and the Urine by the Kidneys, as also promotes the Descent of the Excrements, and all the Secretions; for it gives a gentle Shock to all our Fibres, and therefore encreases their Contractions, and these promoting the Blood's Motions, Secretions go forward apace: But if it be *immoderate*, *omne nimium vertitur in vitium*, Stools are thrown down precipitately, Sweats flow in the room of Effluvia, and they being specifically heavier than Steams, as Water is than Vapours, we must necessarily grow lighter, and indeed all the Secretions, being much encreas'd, contribute to lighten us.

Rest, if *moderate*, relaxes and unbends our too tense Fibres, it makes us lightsome, and disposes us to perspire; but if *immoderate*, it makes us heavier, and diminishes
both

both the insensible and sensible Evacuations, because Fibres not exercis'd, have no more Spirits running into them than what suffice for their Nourishment, and therefore are they not so tense, as when Spirits are frequently contracting them. We are chearful upon Rest, because the Means by which all Passions are excited reside in the Brain, and there being no Call for any Action to consume those that are bred, People at Ease may employ that Store in the Passion of Joy, and for this Reason also Perspiration goes forward, because the Spirits flow plentifully into the Heart, and contract it regularly, and therefore they will perspire: But when it is too much indulg'd, the Humours contract a Grossness, the Shocks usually given to the Fibres, and being useful to them, are abated, so that neither the Peristaltic, nor any other, is continu'd, and at last Obstructions, Stagnations, and a fatal Swarm of Diseases ensue.

It would be in vain to descend to all the particular Exercises, because common Sense will instruct every one what Parts are most exercis'd in the several Species of them: Every one knows how great a Difference there is between Riding, Tennis, and Sailing, and there are Exercises for particular Parts, as well as for the whole Body, which must be selected according to every Person's Emergencies: *Walking*, for example, strengthens

strengthens the Limbs and lower Parts, *Quoits*, the Arms and Breast, *Coaches* shake the whole Body, but I'm afraid later Contrivances, by lessening the Motion on all Sides, have chang'd this *Exercise* into *Rest*, so that they prove bare Conveniencies to take the Air in; *Riding* regards the Bowels principally and the Lungs. I must observe that the Exercise of *Swimming* is an equivocal Exercise, and either warms or chills according to the length of Time we use it; for if we stay a small Time in the Water, the Constriction which the Coldness of the Water gives our Fibres, makes a quicker Circulation, and consequently heats us; but if we stay long in, our Fibres become rigid and inflexible, and our Fluids are congeal'd, so that the Circulation is of Course retarded, and we therefore are chill'd. But there is one *Passive Exercise* which of all others is the most fitted for promoting Perspiration, namely, *Brushing*: If it be of use to such as indulge in Ease, it becomes more so to leprous Persons, whose Skins are scal'd over every where, their Perspiration, can never be free without Brushing off the hard Cover of the Pores, and they ought after Brushing to plunge in cold Water, not only to continue their Perspiration, but also to cool that Itching after Brushing, for without this Caution, that would give them a Heat and a constant Inclination to scratch, as they who are in this Condition know very well.

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BESIDES

BESIDES the Remarks already made on Motion and Rest, 'tis very observable, that several Positions are proper and inconvenient in causing, preventing, or relieving certain Disorders, as has in part been already taken notice of; therefore we will descend to some further Particulars on resting Situations, and subjoin a Rationale on them. They who are subject to * *Syncope's* should avoid Kneeling, because the *Psoæ* Muscles lying under the Iliac Branches and being stretch'd by the Bending, press upon these Vessels, and hinder the descent of the Blood into the lower Parts, whereupon the upper Parts are more loaden and fill'd, insomuch that the far greater Share of the Fluids circulates only in the upper Vessels; the Heart then will receive more every † *Dia stole* than it can readily pump out, and will thereby be greatly enlarg'd, so that the Nerves, running along its Fibres will be much press'd upon, and the Spirits will not be capable to circulate in them, till so large a Quantity is lodg'd in the upper Part of the *Nervus cordiacus*, as will force its way thro', and then the Heart will be again contracted, and no sooner; this § *Perisystole*, this Interval governs the *Syncope*, because this Stop is the occasion of it.

* Swoonings.
from Contraction.

† Opening of the Ventricles.

§ Rest

IN *Night-mares* a supine Posture is observ'd most commonly to introduce them, which places the Stomach fill'd with Viscerals, upon the descending Trunks of the Vessels, which straitens and hinders thereby the Passage of the Blood to the lower Parts, so that there is a Stop put to it some where about the Breast; this gives us whilst asleep, a lively Idea of Weight upon us, which continues till the Posture is chang'd into a more convenient one, and upon waking, the Load and Flutter continue for a small Space.

IN a *Dropsy of the Brain*, * Dr. Lower advises a prone Posture, because, adds he, if the Patients lie in a supine one, the *Lympha* will break through the *lucid Septum*, and rush into the *Medulla spinalis*, will press upon the Nerves, and introduce other Disorders; whereas, if it had been prone, it would have run into the *Infundibulum*, and have re-circulated with the Blood thro' the Jugulars. Please to take the Author's own Words on this and the former Case: "Moreover, whereas the fourth Ventricle, " plac'd under the Cerebellum, is lower and " deeper than the other Ventricles in the " Brain, and even than the *Infundibulum* " it self; therefore it happens that the " Lymph, separated from the *Plexus Cho-*

* Lower, de Corde.

“ *roides* into the Ventricles of the Brain,
 “ flows down into the fourth Ventricle,
 “ more deep than the rest, rather than in-
 “ to the Infundibulum, especially if any one
 “ sleeps with their Heads back; from which
 “ Settling of Humours that Cavity is much
 “ fill’d, and is so far loaden, as by the
 “ Sense of its Weight communicated to
 “ the Nerves of the Præcordia, an Oppres-
 “ sion of the Heart and an Incubus are of-
 “ ten introduc’d. And therefore it is usual
 “ for Persons troubled with * *Hydrocephali*,
 “ never to sleep in a supine Posture without
 “ Damage, but they are obliged to turn
 “ from side to side, that they may the bet-
 “ ter avoid those Anxieties: Yea, I knew a
 “ * Person long ago subject to a Night-mare,
 “ A Man otherwise robust and healthy e-
 “ nough, who could not sleep upon his
 “ Back for two Years, but that Moment he
 “ was seiz’d with a Fit of it; so that he
 “ was forc’d to have a Chamber-fellow,
 “ who, as soon as he heard his Groans, with
 “ which the Disease usually began, he should
 “ turn him on the other side; from whence
 “ it happened, that these Fits were prevented.
 “ AND moreover we observe, that a great
 “ many Children newly born, if they are
 “ subject to Convulsions, do never sleep
 “ long, or quietly in their Cradles, but they
 “ are seiz’d with various Spasms and Start-

* Dropsies in the Head,

ings. The Cause of which seems to be
this, that since their Brains abound with
much Water from this supine Posture,
such is that in their Cradles; the Water
contain'd in the Ventricles of the Brain,
by reason of the sloping Situation, drips
down into the fourth Ventricle rather
than into the Fundibulum, and so loads
the *Medulla oblongata*, from whence spring
the Nerves of the *Præcordia*, very much,
and by compressing it, hinders the Pas-
sage of the Spirits into the Nerves, from
whence an Oppression of the Heart, and
at last convulsive Motions ensue. And
this is therefore the more likely, because
in a contrary Posture, namely, within
the Nurse's Arms, or in their Bosom,
where the Head is erect, they sleep more
quietly and securely. Besides, this very
Thing I happened to observe in a Student
at *Oxford*, who died four Years ago of a
Dropſy in the Breast; who in the last
Stages of his Disease, could not sleep but
with his Face downwards: For if he try'd
to compose himself with the back Part
of his Head on the Pillow, within a quar-
ter of an Hour he wak'd frighted with
horrible Dreams, and was moreover af-
flicted with a Trembling and Oppression
at his Heart. And in his Brain upon Dis-
section, the Ventricles were found much
stretch'd with Water, without any other
Fault in it,

IN *Epilepticks* the Limbs are all drawn up, and strongly too, so that they require a vast Strenght to open them, and we see it common for the By-standers to unlock them: It ought to be known, that this is an officious Mistake; when the Fit is over, the Nerves relax of Course, and the Groans they make under such Circumstances, are not Complaints; They have lost all Sense, and are incapable of making any; but they are the Effect of Contractions on the Lungs, and are casually made by the Struggles in the Trachæa. We are only to take Care, that such People fall not into the Fire, or from a Precipice, or with their Head or Body against any thing that may crush them; for to unbend a Nerve which is strongly contracted, is using a Force that may break it.

SITTING is a Posture which disposes to Palsies of the Legs and Thighs, especially if they sit on any hard Seat and long together; that Numbness and Sleepiness of the Limbs, after long sitting, is no other then a temporary Palsy; the Pressure made upon the Branches of the * *Cauda Equina*, hinders the Circulation of the Spirits that Way for a while; and the Continuance of such a Posture would, at last, dispose to a real Palsy,

* The Nerve that comes out of the *Os Sacrum*, or one of the lowest Bones of the Back.

which

which would be best remedied by Locals ;
If we sit so as to press the Belly, namely,
with our Legs a-cross and leaning forward,
then we are also subject to Pains of the
Bowels, not depending on Wind ; for the
Pressure squeezes all our Bowels close, and
makes Obstructions in their Vessels ; so that
even touching the Bowels of such Persons
gives them Uneasiness ; and nothing sooner
relieves them than warm Fomentations :
'Tis a common Case. but the Reason of it,
as well as the Success of so easy an Applica-
tion, has not been much heeded ; wherefore
Students who write much, should be cauti-
ous of their sitting Postures ; for we often
in Practice, meet with Complaints of Pains
in the Bowels and Stomachs of such Peo-
ple, for which long Courses have often
been prescrib'd in vain ; I have heard the
famous Doctor *Cole*, from such a Posture,
got an Abscess on the Muscles of the Belly ;
and I have known Students oblig'd to quit
their Studies for these Complaints ; where-
as, if the Physician call'd in, had rightly
taken the Case, there had been no need for
such a Neglect or Indulgence, since a
Change of Posture into an erect one at a
Desk, as the Custom now is, and a few
Externals, have done the Feat with many
such Patients, and have made them go on
cheerfully.

So much for certain proper or inconvenient Situations. We shall now descend to particular Exercises convenient for diseas'd Persons: *Sydenham* commends *Riding* for Consumptions to a very high Degree. I have already observ'd, * that original Consumptions could receive no Cure from this Exercise, because an Ulcer can never unite without proper Medicines; and if Ulcers of the Lungs were to be cur'd by Exercise, 'twere full as reasonable to expect that Ulcers elsewhere should also be heal'd by the same Artifice, which however never happens; so that this Exercise is really adapted to Asthmatics only, where the Shocks all the Bowels receive, serve as so many impelling Forces, that drive the gross and stagnating Fluids thro' the small Tubes, attenuate them, and set them again into the Circulation, and shake off that tenacious Phlegm from the Lungs, and thereby give room for the Entrance of Air, and dry the Fibres, and cause them to recover their Elasticity; so that entrance of more Humours will at last be impeded, as well as the Influx of them diverted into other Channels, and the Patients with the Continuance of the Exercise, be re-instated. However 'tis worth Observation, that some Consumptives are often reliev'd by this Motion: I

* Critic. Februm

know one who is very subject to catch Colds in Town, and who has twice been on the brink of Danger, but was reliev'd by proper Applications, and Riding always reliev'd him.

RIDING also is convenient for such as are troubled with extemporary Productions of Gravel, it shakes it off from the Pelvis, and does not suffer it to take up its Abode there; which if it did, in Process of Time it might, by daily Additions and the glutinous Part of the Fluids, coalesce into a Stone; but this Exercise in the Stone is dangerous, for the Size may be such as would block up the Passage, or its Figure may be such as would tear all the Vessels, and Inflammations, Bleedings, or Suppressions, would necessarily entue; and *Barbette's* Caution has always been religiously observ'd, that a * *Great Stone is not to be mov'd*, unless, as the Commentator *Dekkers* say || after the Administration of Medicines that dilute the Passages: Nay this Commentator further observes, * that even

* *Calculus, si sit friabilis comminuendus, est & expe llen dus, magnus non movendus. P. Barbette. p. m. 211.*

|| Post justam, videlicet, emollientium, laxantium, anodynorum, viasque dilatantium tam internorum quam externorum usurpationem. *D. Dekkers. ib.*

* Potius Laxantia Authoribus dicta quam proprie dicta Cathartica, ut putat, cl. D. G. *Rufinarius* in Epitome methodi cognoscendi & curandi corporis affectus: Hæc enim cruciatus augere, calculumque commovete, nihilque emolumenti ægris afferre, L. 3 c. 19. de calculo Renum & vesicæ, affirmat. *F. Dekkers, p. 212.*

Catharticks; properly so call'd, and unless they be softning ones, encrease the Torments, and move the Stone, and do no Good: Hence I cannot but be surpriz'd at Dr. Chyne's Mistake on this Head; he says, 'its proper for those *who are troubled with the Stone or Gravel, to ride much over rough Causeways in a Coach*. It had been just as proper to have said, they who are troubled with the Stone, should bring on Inflammations, Abscesses, Bleedings, or Suppressions of Water, where Physicians will have Employment enough: But we have no Reason to call the Doctor's Justice in Question, he surely speaks his Sentiments; and I do also assure him, I have been often call'd in to relieve Patients suffering the nam'd Symptoms from this very Advice; and how should they not suffer under such rude Shocks? I know it is the common Notion, that Riding does good in the Stone, but the Doctor has here also fail'd of that *Precisson* and *Exactness*, and of that just *Observation* he boasts so much of in his Preface. *Riding* in the Gout is a commendable and useful Exercise, for by it the Parts are exercis'd without Straining; the Juices are mov'd and attenuated, and many of them fitted to pass thro' the Pores, Kidneys, and by Stool, so that strong Fits are at least prevented. I can't omit taking Notice of one Particular, which may be
of

of use to *Gouty* Persons: When their Fits are over, their gouty Limbs are left stiff, unweildy, and unactive, nor can they even creep along without Pain and Trouble, tho, assisted with Crutches also; the Humour is so malicious as to leave Chalk-stones in their Joints, or however a milky Substance (which I have seen taken out) and which in process of Time turns into Stones. This Humour at first, is so thin as to admit of Evaporation, and 'tis a pity so easy and so useful an Application as I'm going to mention, should not be brought into Practice, which can do no Harm, and which produces so certain, so evident, and so sudden good Effects on them, as to make them walk instantly, even on a Slope, without Pain, or down Stairs, who before did not dare to venture their Soles on the plain Ground without a Prop; I mean, that when the Fit is pass'd, and they begin to recover their Stomachs, and to take their Rest, and can converse with their Acquaintance without Complaints, and have only a Disability left upon them, or a Weakness felt only upon Walking or Moving the gouty Limb, let them, at that time, bury the gouty Part under *hot Sand* twice or thrice a Day, and keep it in for about a quarter of an Hour each time, they will soon feel the good Effects of this seemingly trifling Fomentation: It calls out by the Pores, this Matter,
which

which by residing among the Tendons, and within the *Periosteum* would harden into a Chalkstone, and stand in the way to hinder Motion; it supple the Joint instantaneously, and gives new Life and Vigour to it, As I have often advis'd this to gouty Persons with Success, they who will give it the Trial at a proper Season, will reap the Advantage of it. This Exercise is beneficial to Hypochondriacs, and others who have weak Nerves, because the Succussions made by the Horse, are so many Stresses laid upon the fibrous Parts of our Bodies, that the watry Particles in which they are soak'd, and which relax them, by this mild Agitation exhale, as we see Water on the Earth does by a gentle Heat of the Sun, or by Winds licking it up, and thereby become tenser, and so fitter for Action: There is a certain Pitch of Tention convenient for Motion, which if Nature exceeds in, or fails of, the Fibres of an Animal become *rigid* or *relax'd*, and are thereby made incapable of obeying the Commands laid upon them, by the nervous Juice, which is the *Medium* of Actions, running into the Nerves and Muscles: If they are *rigid*, they become too compact to be bent by any Force the Brain can communicate, that *Æquilibrium* is destroy'd; whereas there is an absolute Necessity for the Fibres and Fluids to be counterpois'd in such manner, as if the Fluids

stretch

stretch them to a certain Pitch, they ought to rebound and compress them with the same or equal Force: Tis this Mechanism by which Life is kept on Foot; this is the Action and Re-action so notorious in Animals, and so useful for perpetuating the Circulation and all its Appendages. The best of Things are liable to Abuses, and it fares with *Riding* as with the whole *Series* of Usefals, People find them advantageous, and their *Encomiums* are pegg'd too high by their Admirers: This Custom can never be too much guarded against in Physick; for What opprobrious Names have not some Gentlemen of the Faculty acquir'd by their over-weening Opinions! One Bleeds for every Distemper, a second Vomits upon every trifling Occasion, and a third is wedded to Catharticks; and all these are favourite Errors; for I think we may justly repute that Prescriber guilty of Error, who will at *all Hazards*, and upon every Emergency, attempt that Evacuation he is fond of: These are dangerous Follies to be proctis'd, and yet —: But as Physick is most solidly built upon a reasonable, and not a blind Experience, *this* alone should never be set us for a Pattern, without the favorable Assistance of *that*. This *blind Experience* is like Men walking a Road they are perfectly acquainted with, in the Dark, but if any Rub is thrown in the Way, it is almost certain

tain they will stumble; whereas Reason teaches us both this *Road* and the *Rubs* too: But the true Case, in those we call experienc'd Men, is this, that they travel and jog on *par Routine*, in a Road that never is in all Respects the same. Pardon the Digression, and I shall remark, that if the Fibres are *lax* and *flabby*, there is not a sufficient Quantity of Spirits in the Brain to run into and contract the Nerves, as they ought to do, e'er Motion can be executed: If the Fibres are already upon a Tention, *Riding* is a destructive Exercise; but where they are too flabby, it must of Course conduce to exhale their too abundant Humidities; and, as neither Hypochondriacs, nor Hystericks have their Nerves under the same State and Tention, it must follow, that *Riding* is not always convenient for those Constitutions: I know not how it has prevail'd, in Physick, that a Disease should be reputed to proceed from the same Cause always; but surely nothing can prove more prejudicial to Mankind, then this epidemick Mistake; when a *Scurvy* is nam'd by that Term it is understood, that the Juices are under a Degree of Coagulation from the Tartareous Salts prevailing in the Vessels, introduc'd by some of our Non-naturals and yet stanch Authorities have dignify'd a very different Condition of our Fluid; with this numerical Name, and whether we
speak

peak of Foreigners or Natives, both agree in this Head. In like manner the Hypochondriac Disease is look'd upon by many of the Profession, to retain to those ill States of Health, where the Nerves are weak and flaggy; and to speak Truth, it mostly is of that Tribe: But it were easy to convince those Gentlemen of their Error, if they would give themselves leisure to consider how many Symptoms are produc'd by this Disease, which prove demonstratively a very differing Condition of our Fluids and Solids to be the Case; for, what can differ more widely from a *relax'd* then a contracted State of our Fibres? *Here* the abounding Humidities are exhal'd, but *there* the Fibres are soak'd in them: *Here* the Blood is excessively hot and highly sour, but *there* it is chill'd, and the Sour is loaden with Moisture: *Here* the Nerves are drain'd of their necessary Humidity, are twitch'd, with the natural Sour, and shrink up, but *there* they are drown'd with too much warm Water, and do thereby become flabby, lax, and weak; a very short View of the Hypochondriack Disease will prove the Assertion beyond Dispute: Hypochondriacs as well as Hystericks, are frequently hurried into true Convulsions; where the Blood, and by a natural Consequence, the Spirits also, are under a tumultuous Motion; nothing cures
or

or prevents this Symptom better then that noted Relaxer *Opium*; but if a relaxing Medicine is the sole Remedy, it may fairly be inferr'd, that the Cure of this Disease cannot depend upon such Medicines or *Regimen* that will hurry on those Symptoms we have the greatest Dread of; and were there no other Proofs remaining, methinks this is sufficient to give a Physician room to suspect too univocal a *Rationale* on this Disease: Nay, that very Gentleman who first contriv'd this Cause, swerves from his own Sentiments with the weak Reason of an *Idiosyncrasy*: He well perceiv'd his Reasoning, or rather *Hypothesis*, and would not account for the Operation of every Method found beneficial; and therefore he takes Refuge in Constitutions, and peculiar Temperaments; he found that Steel, Bath-Waters, the Bark, and even a Milk-Diet, had equally good Effects upon Hysterical Women; he had settled a Weakness of Spirits on impoverish'd Blood to be the internal Cause of this Disease: As for the Steel, Bath-Waters, and Riding, he was at no Trouble to account for their Efficacy; but when he found by Experience, that Milk agreed with some of that Tribe, when other Remedies fail'd of Success, he then begins to reason a-new, and this is the noted Practitioner (Dr. *Sydenham*) who expressly spurn'd at all the *Hypotheses*: We may pretend

tend to reject a *Rationale*, but then how shall we act? For no Physican gives Remedies to effect he knows not what; he must certainly observe a Change to the Better or Worse upon the Administration, for such grand Courses are never given *Gratis*; and he must be very heedless if he does not strictly remark the intermediate Steps Nature takes upon Recovery, or the Sickning: These Changes let us into the Secret of the best Hypothesis to be embrac'd; for Example, We prescribe a Steel-Course for an Hysterical Person, and we observe she either grows hotter, or her Pulse advances; or her Secretions are more regular, or her Spirits move with greater Vigour, or her Nerves grow stronger; and it is remark'd that these Changes do her Harm, or advantage her Health. Can any Conclusion more natural be drawn from hence, then that the Cause was too great a Tension or Laxity, or that the Blood was too four, too hot, or too watry, according to the Effects the Medium has upon them? So that Reason backing Experience, frames the surest *Criterion* for building up a true Structure for an *Hypothesis*; if the *Juvenia* and *Ludentia* are neglected, there is no passing a right or sound Judgment on the Cause: These are the *Arcana* great Men depend upon for prescribing by, when they are left in the dark. As therefore no Ad-

vice can be justly given without weighing all the Varieties of Circumstances, so this Exercise of Riding could never be advis'd, as some have done, in *Colliquative Diarrhæa's*, if they had weigh'd this Disease under the bare Consideration of a Flux: And most certainly the Irritations which attend this Disease, must at first be hasten'd and urg'd forward in a sensible manner; however, as these are subsequent to a Weakness of the Solids, and that this was the Occasion of these, Riding, if follow'd with Specifics against Irritations, by abating the original Cause, has been found an advantageous Exercise: It fares in this Case as it does with Indications running counter to each other, both Applications fully act their Parts; namely, Opiates would allay the Irritation, and gain a Truce, till Riding had set open other Sluices, and thereby had diverted the Flux of Matter from the Intestines to the Pores; by which Stratagem the Guts would become less soak'd in Humours, and would thereby have leisure to recover their usual Tone: I say, that a Flux depending upon a severe bent of sharp Humours towards the Bowels, and which did not borrow its Origin from such a State of the Solids, must of course be advanc'd into a fatal Disorder by Riding, because the Shocks given by this Agitation, added to the Twitches occasion'd from the Acrimony

of the Humours, must stand Proof against all the Advantages ordinarily accruing from this sort of Exercise, and will necessarily determine the Spirits and Blood to flow into the Intestines, where the Secretion will be enlarg'd in Proportion as the Hurry of the Humours into those Parts, and the Amplitude of the secretory Ducts give a fair Handle for. Another Benefit receiv'd by this Exercise, whether in a Coach or on Horseback, is, that it gives Relief to those obstinate *Watchings* so often met with in Hypochondriac Cases; but then it ought to be remember'd that the Exercise must be proportion'd to the Circumstances of the Undertaker; Sleep and Oblivion are in Effect the same thing: They who sleep sound forget all their Miseries; and they who, watching, forget and lose the just Idea of Things, are asleep: They also seem to proceed from the same Cause, inasmuch as whatever puts the Spirits into a Calm, will bring on sweet Slumbers; and on the other hand, whatever hurries them, drives it away, and then we seek new Postures to find it. And as Mankind are so variously fram'd, that their Temperaments and Constitutions differ in nice Degrees, those Anguishes of Mind which would precipitate one half of the World into Madness, would overwhelm, and turn the Remainder into Mopes: There is a near Resemblance between this Case and Drunk-

ards, for what Quantity of Liquor makes one Man furious, the same will make another sleep; or, as Mr. *Dryden* says in a sportive Manner, of a certain Country, "So much Liquor as makes us quarrel, will make them get Children." And thus it happens with Exercise, it should be squar'd to the Constitution of the Patient, and to compleat the Analogy on Drunkards,, as Fury in Liquor is allay'd by a few more Bumpers, and chang'd into Stupefaction, so if a little Exercise makes us restless, Fatigue will lull us asleep. It is not easy to say how the Spirits behave themselves on this Occasion; however, the Explanation may be allow'd as true, if we avoid Contradictions; and there seems to be no other Difference between Watching and Sleeping, than between a Storm and a Calm: The Spirits in the former seem to blow the Tubes of the Brain into a full Stretch, and to move in a Hurry through every Fibre, so that that Trembling, usual to an inflated Nerve, is hereupon so augmented, that it becomes continual, and then we watch perpetually; but as soon as those Filaments are drain'd of their Contents, or are overstretch'd with them, then this Motion and Hurry become languid, or are quite abolish'd: for whether the Brain be robb'd of a determinate Quantity of Fluids, or it be so fill'd as to enlarge the Fibres beyond their contractile Force, as in the Case of Drunkards,

* Where
deep, yet do

ards, the Motion will be calm and easy and then Sleep ensues: If therefore *Hypochondriacs* sleep with using Exercise, as they are known to do, this Event must depend either upon a Diversion of the Spirits into other Channels, or upon inviting a larger Share thither than can well be distributed in a certain Time; in which Season sweet Slumbers are indulg'd; nor do they awake, till either a larger Quantity is heap'd up again, or till the excessive Number be distributed; so that Sleep seems to depend singly upon a great Calm of Motion, whether the Spirits be few or too many: Hence, allowing this Explanation to be near the Truth, it may well be explain'd how in * *Peruvigiliums*, the Jolting in a Coach, or even the Rocking in a Cradle, is of Use, for this Disease seems to be a middle Way between Sleeping and Watching, they neither can be said to sleep nor be awake; they give Answers as if they were awake, but they doze as if they slept: It appears then, as if the Brain were alternately charg'd with a Defect or Excess, and a Mediocrity of Motion in the Spirits, as we see in some Plants alternately scented and fetid; and this rotatory Motion either diverts the Stream of them into other Tracts, or fills the Brain so full, that an absolute Calm ensues,

* Where People are extremely drowsy, and lie as if asleep, yet do not rest, but rave or rattle.

Catarrhs or *Defluxions* are easier prevented than cur'd by this Exercise, because Perspiration, which is mainly promoted by Riding, being much encreas'd, no Superfluities are Suffer'd to harbour in our Vessels, nor make any Attempts on our Bowels, and moreover our Pores along with the whole System of our Fibres are rendred too rigid to yield to the entrance of Air, or however become so close and compact, and so inflexible to external Injuries, as not to be alter'd in their usual Secretion, which is the settled Standard for Health. And so it fares with our Clowns, who at all Hours and Seasons are oblig'd to do their Master's Drudgery, that the severest Weather is made a Sport of whenever their Duty tallies with their Inclinations: This Hardiness they owe to constant Practice, and did not the higher Ranks of Mankind soften themselves by subsequent Indulgences, they might bear the Fatigues of a Camp equally with the rude Vulgar; but no sooner is a Journey ended, than they have Recourse to every Comfort in Life, upon their Arrival they bury themselves in a hearty Meal, and Plenty of Wines, they approach to the Fire-side, where Fewel is clapt on enough for a rejoicing Night, and give particular Orders to the Hostess, that they be deep sunk in Down well warm'd; and thus they destroy all the Advantages they had receiv'd in their Journey, while

the Servant loses nothing of what he has gain'd : These Gentlemen are Losers by the Fatigue, and they depart from their Inns more subject to catch Colds than when they enter'd them ; and therefore it can't be suppos'd I speak of any Advantages accruing to such Riders. 'Tis a settled Maxim, that that which prevents a Disease will also cure it, and so long as Defluxions continue and remain such, Riding is useful ; because the Notion, under which they are taken, is only a Translation of Humours from some external to the noble Parts, which in the present Case is a diminution of Perspiration, and thereupon an Accumulation of Humours upon the Breast, which distending the Vessels too much, put an *Embargo* upon the regular Motion, and, by some Degree of Stagnation, grow gross and sharp, by which the Lungs in the last Scenes are inflam'd and ulcerated. I have already observ'd of how little Use this Exercise can be in these Stages, and therefore it is only to be us'd whilst the Humours are hovering and have not thoroughly perch'd ; for thus they are in a proper State of being mov'd by Revulsives, which is nearly the Sum of what is pretended to by this Motion in People liable to, or suffering under Defluxions.

Anasarca and *Dropsies* are reputed to receive Advantage from this Exercise, upon the Footing of Exhalation : The repeated

Shocks move the Pond, and evaporate the Waters, and the Fibres being drain'd of their Burden, regain their elastick Tone, which they have so far lost, that the Fingers or any Pressure whatever, give fair Proofs of it; for press any where but ever so softly, they give Way and frame a Pit, which remains for a very considerable Time after, till by many slow Heaves the Fibres recoil insensibly; and this property they will retain during Life; which if entirely lost, Death hath taken Possession, nor can any the strongest Remedies ever recal such an Abolition, and it is very lawful and very sure Prognostic of a sudden Change, if ever we meet with such a cadaverous State: In this Supposition all Advice is too late, for we must not pretend to work Miracles; what Remedy has the Power of recalling a lost Life? And so soon as the recoiling Property is lost, they are under the Empire of Death. Nay, we may add, that anasarca Patients can receive little Advantage from Exercise, if they do not very early enter upon it, because it would require a large Proportion of Exercise for evaporating all the Humid abounding, and larger than the Spirits of the Patients could bear up under at that time of Day, when Nature is oppress'd and carry'd down with a Deluge of Water or Phlegm; the Effects of the Heat communicated by the Exercise, would not
balance

balance the retarded Reflux of the Humours from the Posture ; and moreover there is Danger, that the Vessels being so very tender and yielding, would be ruptur'd or lacerated, and then a cachectical Ulcer would commence somewhere in the Legs or Thighs, which would discredit the Exercise, and give great Uneasiness to the Adviser, whose Reputation would justly lie at stake, for having injudiciously heap'd Disease upon Disease, and such an one as gives more Trouble than the original Distemper, besides for having encreas'd his Patient's Expences. These Ulcers are not cured without great Skill ; and Exiccants of the greatest Efficacy, besides an horizontal Posture, with the Advantages of internal Attenuants, and Purgatives do not complete the Cure but under a long Tract of Time. I say then, that wherever this Disease has deprav'd the Blood and Fibres to such a Pitch, as that the former is a mere Collection of Glear, and the latter nothing less than a Dough or Quagmire, and moreover where the Bowels are roundly prejudiced by it, whether by inveterate Obstructions, or Coalescences of some Ducts, or some such Extremes, this Exercise can never be suppos'd to be brought in Use, for here the whole Tribe of Purgatives, Diuretics, Diaphoretics and Attenuants, are too weak to contrast with the Disorder ; so that we may justly say, the
Habit

Habit or Disposition to this Disease is the proper Season for using Exercises of this Kind. There is one Caution Physicians called to such Patients should strictly follow, and it is this, they should take the Advantage offer'd them after a good Night's Repose, and when they see the Legs of the Patient lank and quite faln, as they generally are in a Morning, to fit them with lac'd Stockins, which they ought to were the whole Day; without this trifling Caution, as it would seem, Catharticks, tho' ever so strong, will fail of having their desir'd Effects; their Legs will ever continue to swell, nor will their Fibres ever recover their Elasticity without this Method: It is true, this Caution alone will not suffice to complete the Cure, because Externals and Internals should be apply'd and administered, which have an actual Stypticity in them. If the Legs are infested with ever so mild an Ulcer, we find it necessary to blend gentle Stypticks along with Balsamicks, because the sloping Posture retards the Reflux of the Juices, which are apt therefore to cause too great Distentions in those Parts, which are in some Measure obviated by Stypticks, as Interceptives; and the greater is the Danger of Relaxation from watry Humours, the stronger Stypticks do we apply to compass our Aims; and in the present Case I have known all other

other Remedies ineffectual, till we come to use Fomentations made of Balauftines, red Rose Flowers, Oak Bark, Sumach, and the like, boil'd in Water in which Steel was quench'd and to which rectify'd Spirit of Wine was added, at every Bathing, in the Morning, tying on the lac'd Stockin after it. and in the Evening upon going to Bed ; and giving Chalybeats and the Bark internally for a considerable Time, which did not act by attenuating Particles only, but also by their notable Stypticity and corroborating Quality.

HOWEVER usefull Riding may be in many Cases, yet it has also its Inconveniences, which it is proper we should remark to our Readers: Some so overween in favour of this Exercise, that we here all its Encomiums, it is set in so advantageous a Light, that they have not neglected to mention any the least Benefit receiv'd by it ; But I'm afraid this is not all, for they seem to attribute to it more then its Share, they aim at a Panegyrick, perhaps for the Good they themselves reap'd by it. Be it so, 'tis certainly very Instrumental in moving the Blood forward, and in making the Fibres strong and tense ; but then it ought to be consider'd to what Point these Advantages are to be stretch'd, how far and no farther we must carry it : Nature bears no Excesses ; when she succumbs 'tis high Time to
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forbear the Cause of her Failure, and it will plainly appear how this Exercise prejudices the following Diseases. In any Evacuation of Blood it highly encreases it, so that they who spit and cough Blood, who make bloody Urine, or have too many of the Menfes or Hæmorrhoids, should forbear it; for 'tis essential to Motion to shock our Fibres and move our Blood, and when Vessels are open and ready to throw out their Contents without farther Incentives, he must be very wanting in Physick, that does not see the Disadvantage accruing from this Exercise. Let * some say they cough'd and spit Blood, let them tell us they spit green Matter subsiding in Water and stinking when thrown into the Fire, and that they were cur'd by Riding, this Affair is not rightly stated; a Sublidence in Water does not argue Matter always; for though it is true that *Matter* will subside even in salt Water, which is specifically heavier then common Element, yet I can affirm, that some Substances, which are not *Matter*, will also subside in Water, for *putrid Phlegm*, as the Antients term'd it, will also subside; and this happens when the oily Parts of the Serum are so strongly coagulated by the concentrated Acidities, as to become specifically heavier then even salt

* Dr. Baynard in Fuller's Med. Gymn. p. 184.

Water it self: The Acidity gives it a greenish Yellow, and puts upon those who examine no deeper into the Affair, for any one who reads this History would really believe there was an Ulcer in the Lungs, which was cur'd by Riding. Moreover, what is more usual then to spit a little Blood with Straining hard to cough, which does not amount to what we usually mean by an *Hæmoptœ*, and therefore it cannot be justly inferr'd, that Riding conduces to the Cure of a Spitting of Blood, so that it can neither be affirm'd, that this Exercise conduces to cure a confirm'd *Consumption* or an *Hæmoptœ*, to which end this Observation seems cited to persuade us; but the true Light it ought to be plac'd in is as follows: The Doctor had suffer'd a Catarrh to run on to the second Degree of a Consumption, and he cough'd continually, as he relates it, Day and Night, and cough'd up a tough and discolour'd Phlegm; the Toughness made him strain much, and so drew Blood out of the Capillaries, and the Colour along with the Settling of the Matter (spit up) in Water, gave Grounds to call it a *true* and *confirm'd Phthisis*, whereas in Truth it appear'd to be a beginning one only; and as in the second Degree of a Consumption, if the Strength of the Patient will allow it, Exercise is commendable, especially Riding, as it encreases Perspiration

tion without wasting the Spirits, because even at that Season Revulsions are absolutely necessary, as far as allowable, so Riding conduc'd to promote the only Secretion that perhaps his Circumstances would allow of at that Time of Day; however, without the Milk, and the Regimen mention'd in the same Place, it had been impossible for the Doctor to have recover'd his Health, or to have abated his Hectick; and I could give many Instances of this Degree taken off by a proper Regimen even without Riding, and when no Revulsions at all could be us'd, by reason of the Patients Weakness one of the most remarkable of which I shall take the Liberty to subjoin. A certain young Woman was seiz'd in the Year 1710, *April* 19. with a Cough, with which she cough'd up tough and tenacious Phlegm, discolour'd, that is greenish, yellowish, and streak'd with Blood, she was extremely hectic, her Pulse was very low and small, frequent and quick, she was wasted to a mere Skeleton, with an *Hippocratick* Face as we call it, her Breath was thick and short, she had colliquative Sweats upon her, and fell into Syncops'd very often in a Day, her Appetite was quite abolish'd, and her Spirits so low, that she was oblig'd to be led across the Room with the Assistance of her Mother and Sister, and a Turn of three Yards from the Bed and back again, was
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just as much Exercise as she could bear, if she us'd more she fell into a Swoon. It was reasonable at first View to believe this poor Creature was doom'd to Destruction, and that she was in the last Stage of a Consumption: I did not dare to administer an Opiate, because she breath'd so short, and her extreme Weakness deterr'd me from all Evacuations; and therefore I gave her the following Medicines.

℞ *Rad. Chin. ℥ Sars. ā ʒij. Rasur. Corn. Cerv. ʒiv. Fol. Capillor. vener. p. vi. Flor. Hyperic. ʒj. Incis. f. materialia pro decoct. ℞x. Edulcorand. Rad. Eryng. Condit. cujus sumat ʒvj. mane et sub vesperam, cum lactis asinini pauxillo.*

℞ *Syr. Balsam. ʒiij. Capillor. vener. ʒiv. m. f. mistura, de qua sumat cochl. j. urgente tussi.*

℞ *Pulv. oc. cancror. ʒij. Marg. pp. ʒj. millep. pp. ʒss. Sacch. alb. ad pondus omnium. m. f. pulv. divid. in chart. n^o x. quarum sumat unam bis de die, superbibendo decocti Haustulum.*

℞ *Aq. meliss. ʒvj. Lact. Alex. ʒiv menth. ʒj. epidem. ʒj. tinct. croc ʒj. conf. alcherm. f. m. ʒj. marg. pp. ʒss. sacch. alb. qf. m. f. Julap,*

lap. cujus sumat cochl. iv. in languoribus.

℞ *Pulv. cort. peruv. ℥ss. extract. croc. ℥ij. bals. peruv. qs. m. f. pil. n° xij è ℥j. quarum sumat quatuor horâ quâque quartâ.*

℞ *Rad. Chin. sars. ā. ℥ij. rasur. ebor. corn. cerv. ā ℥iij. fic. ping. n° xij. fol. capill. vener. p. iij. hæder. terrest. p. v. flor. chamæm. p. iij. incis. f. ingredientia pro Thea.*

℞ *Syr. Balsam. ℥vi. Capil. vener. ℥iij. Balf. Gilead. gtt. x. m. f. mistura cum qua edulcoretur præcedens Liquor inter usum.*

By the Assistance of these Medicines closely follow'd, she recover'd and came to be very healthy: These corrected the Acrimony of the Blood, allay'd the hectick Heats upon her, comforted her Spirits, and made her expectorate; so that within a few Weeks she, who was a Spectacle, became plump, by eating and resting well. As for my part I could not forbear pronouncing a fatal Prognostick, and all who saw her readily fell in with my Sentiments, that she was in the last Degree of a Consumption, but I had not then made a proper Trial to distinguish whereabouts we were; I took it upon trust that such an extreme Weakness and

and such a discolour'd Spit, attended with so strong a Fever, must denote the last Stage; but yet it prov'd a Mistake, which however gave me Reputation enough.

I hope the Reader will excuse a Digression, which was of use to overthrow a Mistake too common in Practice; and, as I have said, that this Exercise is very prejudicial in Bleedings, I must also observe to them, that it is very improper for Women labouring under the *Fluor albus*. We observe such Women, upon any the least Excess of Motion, complain of Pains in their Backs, and a flowing of the *Whites*; The Pains depend upon the Bent of Humours forc'd and determin'd thither by the Motion; this hurries the Blood, and fills the Vessels too full, so that Pain ensues, and the Quantity flowing proceeds from the Accumulation of Humours in the *Hypogastric* and *Spermatic Arteries* and in Women advanced in Years, accusom'd to be infested with this Flux, and liable to it upon every Occasion, such a Flux hastens their Period of Life: Old and weak Women are apt to generate Phlegm, and the Uterus, by frequent Attacks of this Disorder becomes lax, so that it becomes as it were a Sink for this Humour, and seldom yields to the best of Remedies; and if such Women are moreover oblig'd to use Exercise, it is impossible to relieve them, they will never want the *Whites*,
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and must at last melt into an Atrophy, which is difficult to take off. How true the Observation is let History answer: But it is affirm'd, that the *Tartarain* Women are very barren, and the Reason given for this Sterility is, because they ride much: Now, it is certain, that if the Women in *England* ride much, it gives them the *Whites*; and we very well know by Expeince, that Women who are troubled with this Disease to any Degree become barren. It is also Matter of Observation, that the Barbarians of the *Indies*, who are much accusom'd to labour hard and to carry heavy Burthens, are also very Barren: And as carrying Burthens with us, makes Women subject to the *Whites*, there is the same Reason they should be as barren as the *Tartarians*: It is found by daily Practice, that Men who overstrain themselves by carrying heavy Loads, are held with a Flux of Seed or Blood, according to the Degree of the Strain; and it happens from the Weight they carry, which destroys the *Æquilibrium* of the Muscles, and relaxes their Fibres, and also all the Vessels running thro' them; so that if any *Reservoir* hangs at the Extremities of these Vessels, they must also suffer and be relaxed, and so render'd incapable of holding those Liquors entrusted to their Charge. If we consider the Reason of the Stubbornness of this Disease,

ease, we should deter Women from this Exercise; but it is certain, wherever the Glands of this Organ are once thoroughly distorted, or become indurated, or too much relax'd, they never yield to Art, and the Excess determines the Danger: Moreover, nothing is more common than for Riders to be seiz'd with *Ruptures*; they who are already under the Lash, should never ride unarm'd with good Trusses and methinks, they who are destin'd to this Exercise should fore-arm, and even wear them before they have Occasion; for Prevention is by much the easiest side of the Question: I believe it wou'd look like a Paradox, to name any one Person, that was ever cur'd of a Rupture by Riding, and would have been drawn in by Head and Shoulders for a Precedent, by the Favourers of this Exercise; such an Instance however I was thoroughly acquainted with; the Gentleman rode at least sixty, often an hundred Miles a Week, and was much infested by this Disorder, as he had been from his younger Years: he hated Trusses, and was therefore always oblig'd and observ'd to hold his Hand upon the Part by the help of the Waistband of his Breeches, and under this Toil he rode on for five or six Years together; but at last he found the stress upon the Part to lessen, which it daily did, till there was no farther Occasion for his troublesome Posture;

he could even Hunt at last, and leap Hedges without being oblig'd to hold the Part with his Hand, and continued well for above ten Years, and may so still for any thing I know to the contrary; but then you are to know that all these Advantages were not to be reap'd by Riding; no, he was always prejudic'd by it; they were owing to his way of living; he was a very lean thin Man, and by falling into good Fellowship, he plump'd up and grew bulky; to which Accident only he ow'd this Piece of good Fortune; and it may readily be accounted for; because, if by his lean Habit the Rings of the Muscles gap'd, they were clos'd up by his growing plump, so that the Intestines could not escape thro' the Processes; and prehaps some Part of the Intestines might grow to the inner Part of the *Peritoneum* as his Blood grew more balsamic. Nor can this Exercise, or any other be suppos'd proper for Women subject to Abortions, 'tis too easy to see what *fracas*, what Havock it wou'd make, it wou'd tear off the Afterburthen, it wou'd occasion Bleedings, it wou'd lacerate the Substance of the Womb it self, it wou'd cause Fevers, it wou'd be the Introducer of Convulsions, Ravings, Swoonings, and Death it self: But as the greatest Patrons of this Exercise, are not fool-hardy enough to deny these Consequences, they submit to acknowledge the just Accusation

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culation. Nor are Persons subject to make large Quantities of Water, to be advis'd to this Exercise, the Riding moves the Blood and shocks the Fibres, and when a more frequent Irritation concurs with a more violent Motion, the Secretion is generally increas'd; because every Degree of Enlargement of a Vessel, adds a greater Patency, and the Quantities afforded by their different openings, supposing them of equal Heights, are as the Squares of the Diameters so enlarg'd, so that if a Diameter as two afforded four Ounces, a Diameter as three would give forth nine Ounces in the same Time: This is Fact, and easily demonstrated in the following manner. Circles are to each other as the Squares of their Diameters; for we conceive a Circle to be only a regular Polygon of infinite Sides: If then a Polygon be inscrib'd, however the Circle exceeds, the Polygon will also exceed: Draw a Triangle within this Polygon in the greater, and another within the lesser, these Triangles will be proportionable; but the Triangle, and consequently the Polygon of the greater, exceeds those of the lesser, as the Squares of their homologous Sides; and therefore do the Circles; And this Proportion will always hold good till the Vessels lose their Elasticity; for then becoming too rigid, or relax'd, they flag and grow curv'd,

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or don't yield to the Fluids at all, and then all Proportion is destroy'd.

PERSONS under *Convulsions*, are prejudic'd by Motion; let us take the Case how we please, we find Members convuls'd do thereby become too rigid, and if we allow Exercise to strengthen the Fibres, it is by making them tenser; but if they are already too tense, Exercise hardens them yet more, and adds to the Convulsion; or if we suppose they proceed from too hasty and irregular Influx of Spirits into the Nerves, Riding moves all the Fluids briskly, and will also introduce, and not calm, Convulsions.

THERE yet remain some Instances from the Divine *Hippocrates*, where Men are affirm'd to receive Damage from Riding, and that is it destroys *Virility*; * *for where*, says he, *Men ride much and very often, there very* " many are seiz'd with daily " Disorders from a Defluxion, with Dis- " eases on the Hips, and Pains on the Feet, " and become unable to exercise Venery: " These Disorders the *Scythians* are infested " with, and for these Reasons they are ren- " der'd the most unfit of all Mankind for

* "Οχι γὰρ ἰππαζοῦνται μάλιστα καὶ πυκνότερα, καὶ πλεῖστοι ἰπποκράτους, καὶ ἰχθυῶν καὶ ποταμίων ἀλίσκοιται, λαγνύειν κακίστη ἰστί. Ταῦτα δὲ τοῖσιδε Σκυθίοις ὁρᾶται καὶ ἐννοῦχο ἐδέξατο ἰστί ἀνθρώπων διὰ τὰς ἀσθενείας, καὶ ὅτι ἀναβυλῆδας ἔχουσιν αἰεὶ, καὶ ἰστί ἐπὶ τῶν ἵππων τὰ πλεῖστον τὰ χεῖρα, ὥστε μὴτε χεῖρα ἀπτεῖν ὀφθαλμοῖς, ὥστε τὴν ψυχὴν καὶ τὴν κοπὴν ἐπιλαβῆναι τὸ ἴμερ καὶ τὴν μίσην, καὶ μὴ ἐν παρακλίειν ὥστερον, εἰ ἀναδ' ὀρθῶνται.

" Coqu-

“ Copulation, both because they always
“ wear Breeches, and because they lead the
“ better Part of their Lives on Horseback,
“ so that they cannot handle their *Pudenda*,
“ nor can they have any Appetite by reason
“ of the Cold and Fatigue; nor do they
“ seem to have any thing more at Heart
“ than to be depriv’d of their Viri-
“ lity.” Which Men who ride much,
do experience in our own County. The
Reasons for this Imbecility seem to be many,
for first, the *Erectores*, and other Muscles,
lie between the Horse and the Weight of
the Rider; and as they ought to be tense
to a certain Degree, this Position seems to
destroy their Tone; for how is it possible
Muscles should avoid Compression in Rid-
ing, where they are at every Jolt, kned
as Dough, and are thereby at least relax’d
far beyond their ordinary Tention; and
moreover Fatigue has always the effect of
exhaling the Spirits: But when Men lose
their Spirits, and at the same time have para-
lytic Muscles in the Part necessary for Coi-
tion, it is impossible they should act with-
out Materials; there is no speaking with-
out a Tongue, nor flying without Wings.
For the other Disorders *Hippocrates* men-
tions, they seem to depend barely on ex-
posing themselves to extreme Colds, and a
hanging Posture: The Cold coagulates our
our Fluids by introducing acid Particles
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into them ; and if these Acids are in great plenty, as they must be in the northern *Tartary*, they tear the Solids by their Points, and occasion Pains and other Defluxions.

HAVING nearly summ'd up all the Advantages and Damages also receiv'd by Riding, it remains that we descend to other particular Exercises, and recite also where and why they do Service or Disservice ; among them I reckon *Friction*. Among the many Things necessary to be known by a Physician, *Hipocrates* mentions * *Friction*, and promises us in the same Place to treat of it elsewhere ; which, as he never did, we have Reason to believe we are not in Possession of all his Works ; Be this how it may, there are not a few of late Years who have taken this *Chafing* into Consideration, and have shew'd us what Benefit accrues to us by it : I wish they had also taken the Pains to discourage its Abuse. But it fares with Physick as with unjust Judges, they determine by Favour ; 'tis not uncommon to see Men, who are fond of an *Hypothesis*, to say all good Things of what Medicine or Method they are wedded to : And altho' little can be said for it by Experience, if we confine our selves to the Truth, yet large *Encomiums* are given

* *De Articulis, Sect. 6.*

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it; 'tis gilded with fine Titles, tho' the Writers are oblig'd like Glow-worms, to borrow its Lustre from the Dark.

It is our Business then to take a View of *Friction*, and consider what it performs in our Bodies; which when we have done, we shall the more surely pass Sentence on its good and bad Effects. When Parts are chaf'd, whether by a warm Hand, or by Leather in Bagnio's, or by a Flesh-Brush, or with a Sponge, the *Friction* repels the Humours circulating thro' the Skin for a while, but so soon as the Force is remov'd, the Parts so rubb'd grow red, plump, and warm; so that the *Friction* seems to have an Effect upon the Solids, either in softning them, as we see a gentle Fire softens and relaxes Leather, and gentle *Friction* occasions a Warmth, and also works upon the Fluids, in attenuating those circulating in the Skin; or has an Effect of hardning the Solids, and producing Effects suitable to the Degree of it.

GALEN reckons up many Advantages accruing from it, but he is careful to say no more then it deserves, he takes notice of the Damages it does when immoderately us'd; and if we rightly consider the Affair, there never was any Medicine, or any Method so trifling, but, if it did Good, it wou'd also do Prejudice if abus'd: As to Drugs, 'tis certain every Plant, every Mineral,

ral, every Animal abounds with some Principles to a determin'd Degree ; therefore, if any one takes plentifully of a Plant, for Example, it will be easy by continuing the use of it to ferrit out its Virtues and Harms ; however antient this Method has been, it is yet the surest : No one higherto, tho' the most skilful in the *Materia Medica*, having refus'd to stoop to these low and antiquated Means, as to the first Step of coming at the Vertues of a Medicine ; and therefore, as to the Exercise we are speaking of, the same Method shall be observ'd by us : We shall fairly recount to our Readers what it has been found to do, and why it does it.

SUCH Persons as lead an unactive Life, whether by Choice or Necessity, trust to the Strength of their Hearts ; they must imagine this Organ strong enough to propel and drive forward the Juices to the Extremities, and must believe no Accidents of sufficient Energy to resist its Force, if they neglect proper Exercise, when they can conveniently put it in Execution ; or if they don't supply its Defect by proper Equivalents : If we speak precisely, *Friction* does not fully answer the Ends of stronger Exercise ; however, it attenuates all the Fluids that take their Course to the Skin, it opens the Pores, and serves many Purposes in like manner, as Exercise will do in a less Degree.

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FEW dream that *Friction* produces contrary Effects on the Solids and Fluids, according to its Degrees, but these Consequences will plainly appear in the Sequel of this Discourse; to which we will subjoin the *Rationale*.

WHENEVER we have a Mind to plump up our Flesh, the Brush us'd moderately Morning and Evening for a small Time, presses the Fibres gently, and squeezes their Contents forwards, which, when it is remov'd, the Solids recoil and grow larger, because they yield to the Pressure, and do thereby become capable of receiving more Fluids within their Sections; and what is *Nutrition*, but a larger Quantity of Fluids running in the Channels, and plumping them up? This I say we experience upon gentle Brushing; but if this Exercise be us'd immoderately, then it opens the Pores, dissolves the Fluids, warms them, occasions great Expences of them thro' the Skin, and the Fibres being thus depriv'd of their usual Contents begin to shrivel and make us look lean.

IN like manner *Friction* when it is moderate softens the Fibres, because whatever calls up the Blood into the Parts, gives a warm Moisture to them, which has a property to relax and soften the Solids; but if we proceed in chafing too much, then we cause a great part of this Moisture to exhale

hale thro' the Pores, and we drain the Fibres of their softer Parts, and they become hard; and as Diseases do often depend upon Relaxations and Constrictions, we are shew'd a Method, by which we can relieve either State, as far as is in the Power of *Friction* to effect.

WHATEVER Changes *Frictions* produce in our Bodies, may justly be reduc'd to the following Heads, namely, either they promote the Circulation, encrease our Heat, dissolve the Fluids, and encrease their Velocity, or they soften or harden our Solids; I say these are the original Properties, from whence all other Effects do spring, as will appear in the following Paragraphs.

FRICITION is us'd in *Palsies*, to the End the Parts obstructed and relax'd may be again restor'd to their usual Tone, for it encreases the Velocity of the Fluids to the Part affected, and by Consequence to the Nerves obstructed; whether the Spirits, invited by the Chafing, flow with a Swift-ness capable to open the obstructed Nerve, and the Relaxation being a Branch or the Obstruction, gives way also; but if moreover the Parts are permanently relax'd, we are oblig'd to chafe oftner and longer at a time; because it has this in common with Exercise, that it exhales the abounding Humidities, dry's, and so strengthens the Parts; but Care must be taken not to exceed,

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exceed, lest we make the Fibres rigid, and so render them again incapable of receiving any Impressions at all.

IN *Spasms* or Cramps, where the Parts become too tense, by Reason of the Contraction of the Parts, gentle Chafing relaxes the Parts, and this is the occasion of rubbing the Parts in Epileptick, Hysterick, or Convulsive Fits; it affects the Fibres, and unbends them when they are shrivel'd up, and made incapable thereby of receiving and distributing Spirits; and moreover 'tis wholesome in these Cases to chafe where the Parts are not contracted, because it invites the Spirits and Blood into another Channel, and diverts their Fury from the Parts affected, so that it serves by way of Revulsion, as well as Evacuation; for the *Perspirabile* may be increas'd by chafing, and, the Retention of this frequently giving Rise to these Symptoms in Persons dispos'd to Convulsions, the taking off the original Cause at the time we make a Diversion, serves two grand Purposes, namely, it lessens the Quantity of the Cause, and it changes the Bent of the Humours into another and distant Channel; so that the Parts, which at present are overcharg'd, are put into a Condition of getting rid of the Weight they groan under, that is, no more will run in, after such a Diversion, than can be distributed, and the Nerves do leisurely

surely recoil and recover their due Tention.

IN the *Gout* Frictions are of use, because they dissipate the Humours that stagnate any where, by the Pressure made use of; and as in gouty Persons the Fluxion upon the Joints, of a saltish and viscous Matter, obstructs the tender Channels, and frets them into spasmodick Pains, a little Friction attenuates this glary Stuff, and prepares it to pass off by the Pores of each Fibres, and at last by those of the Skin, and does thereby shorten a Fit of the Gout, or at least contributes to alleviate the Vehemence of it: Tis true, we find few have so much Rhetorick as to persuade the Sufferers under this salutary Despumation to chafe, tho' it be done ever so gently, because they have no Notion of adding Pain to as much Pain as they can already bear; and if by Chafing were understood a rude Treatment of the Part, they would be in the right to forbear it, because this Friction would invite a fresh Influx of Humours into the Joints; that is, it would give a new Fit, so that the Patients would undergo a double Paroxysm; but a warm Hand, or a tickling of the Part with a Brush, are hardly felt, and they would only attenuate the Humours nestling in the Joints, without putting the Blood into any Hurry, and would therefore serve only to dissipate the stagnating, and not to invite the flowing Humours:

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From whence we may gather, that Friction has a double Use in gouty Persons ; namely, it either *dissipates* or *invites* Matter, and may therefore be used both in the Fit, as a dispersing Fomentation, and out of it, as a Revulsive, to draw the Gout resting in our Bowels, to the extreme Parts, which, if it is not much settled and fix'd within, it will effect.

FEW will imagine that hard Friction conduces to put a stop to a Flux of Blood, and yet it is advis'd by all Practitioners for compassing this end: It must be confessed, a large Hæmorrhage is not likely to give way to so slender a Revulsion, which often proves too hard for the greatest Remedies ; but a Bleeding which is moderate, may be assisted by Friction, inasmuch as it calls the Bent another way, as it changes the Motion from the Part affected, to a distant Channel, so that it shall not be loaden, nor rent into a larger Orifice: Revulsion is a Substraction ; by it the Blood, which would flow to any Part, is prevented to arrive at the Orifice, and the Fibres are mov'd into a Trembling or Oscillation in the chafed Part more then usual, and therefore the Blood moves that way more rapidly then usually it did, and forgets its Course, in proportion, to the gaping Orifice. But whilst I am speaking of the Advantages of Chafing in Bleedings, I hope none will take
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me to be so much a Patron for it, as to postpone better Remedies, I only mention common Practice, and the Reasons why Practitioners have advis'd it.

THEY are in use for Night-mar'd Persons where the Blood or Spirits are under a viscid State, and where they are to much compress'd, because the Brush apply'd all over the Skin, attenuates all the Blood running in those Channels, which therefore, if often us'd, may in time render the whole Mass thin enough, and so hinder it from standing still any where, as is certainly the Case in the *Hagridden*, whose Pulse, if felt after a Fit, will convince any Unbeliever, for it will be found to intermit frequently: I have above remark'd, that an Intermision of the Pulse, and an Oppression on the Heart, do accompany an *Incubus*; and these Symptoms are *Scions* of an Obstruction and Viscidity, and upon the same Account in a *Catalepsis* hard Rubbing has a good Effect; the Parts are in this Case to be rubb'd with rough and warm Cloaths, which put the Fibres into proper Vibrations, and the Humours again into Motion; so that the Spirits which seem to be coagulated by some malignant *Aura*, and to be shut up in the Fibres and Muscles in an odd Manner, do begin to mantle and spread themselves afresh into Motion. Nay, in *Apoplexies* themselves we use hard Frictions with Success

cess in the Extremities; which serve as Revulsives and Attenuants, provided the Blood is not extravas'd into the Ventricles of the Brain; in which Case, the strongest Remedies prove ineffectual; nor are Frictions of any Service here: But who is he that knows whether this is really the Case? We have no Signs so univocal as to discover this Degree of the Disease; and as all Remedies are to be call'd in Practice which give us promising Views, this is to be practis'd among the rest: If the System of our Fibres have not lost all their Tone, or all their Function, it is possible that hard Friction, which is a continual Remembrancer, may put them into Vibrations and Tremblings, and thereby invite a plentiful Flux of Blood and Spirits to the chafed Parts, and draw off from the loaden Organ, so large a Quantity, as to enable it to recover its Elasticity and Spring, by which it will propel the Burden into the Mass again, and the Patients may thereby recover their Sense and Motion. As for my Part, I think, we have as much Encouragement to use Frictions as any other more promising Applications: Altho' we have no leisure to call to Order the Remedies us'd in *Apoplexies*, each being to be us'd as soon as thought on, yet this being one of the easiest, should be one of the first and last too; 'tis not troublesome to the Standers-by, and gives

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the Fibres fresh *Memento's* of rousing the sluggish Spirits to run into their Quarters, and desert those they have too much oppress'd : Neither the Physician or Assistants, ought to neglect or postpone any salutary Measures, tho' they don't find much Advantage in them presently. These Persons may justly be compar'd to high-mettled Hawks, who soon grow weary when the Game is not near ; but unwearied Diligence accompany'd with Skill, wears the Lawrel.

THESE Frictions are us'd in habitual Vertigoes also ; not that these Humours, according to the Antients, arise from Wind, and that Friction carries them off, but because the Head is never loaden more than by a Stoppage of Perspiration, and Chafing restores this Secretion effectually ; which if prejudic'd or check'd by the Inclemency of the Air, fills all the Channels in Proportion as it is curb'd ; and because some Nerves bear Fulness very baldly, because it puts them into Tremblings, those of the Eye happen to be tenderer in some more than in others, and suffer Damage by the Obstruction : How often have we observ'd Persons, otherwise in perfect Health, subject, upon any Error committed in their Non-naturals, to these Vertigoes ? Vomits, Bleeding, Physick, and Volatiles, do but alleviate for a while ; the least Plenitude, the first

first hazy Day, sitting up a little later than usual, or indeed a violent Passion, will hurry them afresh into all their former Complaints, they grow giddy again, and if they desire to be reliev'd suddenly, they must again undergo the same Course they had done before : But as no discreet Person would insist upon so hazardous a Method, because their Spirits would, in process of Time, thereby be wasted ; so all such Patients can do, is to take Medicines that will strengthen their relax'd Nerves, and to forbear every Measure they have experienc'd to be prejudicial And if it be enquir'd of me, what is that Remedy that will strengthen the Nerves ? I believe that *Biondi's Pills*, mention'd in *Sir Theodore Mayerne* ; they are made of *Saccharum Saturni* and *Turpentine* ; the aromatic Particles of the latter will exhale the Humidities relaxing the Nerve, and the Styp-tic Parts of the former will contract it ; so that in process of Time it may grow tense enough to receive Impressions in a proper manner. Cold-bathing of the Head also will be of use to make all the Fibres of that Part of a due Tention, and Friction by promoting an Evaporation of the watry Parts of the Blood thro' the Pores will lend an assisting Hand to the Work.

We are now well appriz'd of the Nature of the *Rickets* ; they are indeed the Species of a Palsie, where the Nerves are relax'd,

and the Parts become emaciated ; the Relaxation is an Effect of the Humours being too watry and slimy, and the Atrophy of the Parts depends upon a Defect of Circulation thro' certain Tracts of Fibres. It is remarkable, that Children held with this Disease, have their Heads larger than usual and are endu'd also with a larger share of Sense, whilst they are thin and meagre elsewhere, and are so weak as hardly to be able either to manage their Feet, or to stand. The Head is well provided with Juices, but the Back and all the Nerves issuing from thence, are relax'd, if not Obstructed: In this Case Practice has found Frictions useful. Hear on this Point Dr. *Glisson* ; Friction, (says he) may also be referr'd to manly Exercises, in its own manner; not indeed with respect to an active Motion in the Child requir'd for its Administration, because it is done by the Nurse, and not the Child, but by reason of a like Force and Efficacy it has in the Cure of this Disease. And Friction seems to be of a double Nature, and partly belongs to Exercise, partly to the nature of Applications, upon which Account we have reserv'd it for this Place, that it might conclude the kinds of Exercise, and immediately precede Applications. It is to be us'd in Winter especially, before a plentiful Fire, the Child being well guarded

ded from the Injury of the Air. Some Nurses perform this Friction with a *warm Hand*, others with Cloaths dry'd and warm'd, others with Flannel, and others with a *Flesh-Brush*. Some indeed praise the Brush much, and prefer it to all other Methods ; but since it is of very little Consequence how it is done, we approve of all, and so leave it to the Nurse's Choice. But let them begin this Friction from the Spine of the Back, placing the Body of the Child with its Face downwards, and let them move the Hand on all Sides, upwards, downwards, and side-ways ; then let them rub the Buttocks, Thighs, Calves, Ancles and Soles of the Feet ; then again, placing them on their Backs, let them rub their Breast and Belly, taking care not to rub the Parts where the Bones jutt out, but only their hollow Parts very freely. Nor is this Action to be continu'd longer, than to give a gentle Redness, lest the native Heat should rather be disper'd than rais'd. This sort of Exercise, agrees chiefly with weaker Children, and with such as cannot walk or exercise themselves ; for it supplies Exercise, and serves to raise a Heat in the Body, and to distribute Nourishment to all the Parts. However, it must be granted, that *Chafing* allures much less Nourishment and Heat to the muscular Parts than to the Fibres of the Skin, than Exercise properly so call'd, and

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therefore it gives way in Dignity and Value to true Exercises : Thus far the ingenious *Glisson*, in his Treatise of the Rickets, p. 406, 407, 408. And altho' this Gentleman wrote his Book in the Infancy of the Circulation, yet he gives us plain Reasons for this Operation. The Circulation of the Blood (says he) is slow, and lessen'd, and more slimy than is requisite, so that the vital Heat becomes feeble. Modern Practice allows his Reasons, and Friction is built upon a solid Foundation ; for if exhaling the Humidities, with which the Fibres and Nerves of the Back abound, if putting them into tremulous Motions, which the pleasing Friction does, being like running our Fingers over musical Strings to make them give out Sound, and if inviting a more plentiful influx of Blood and Spirits into the Parts, can prove efficacious in Obstructions, Friction bids fair for helping them on their Road towards Cure.

WHEREVER Persons upon catching Cold, are subject to *Headachs*, the Parts being obstructed, the Matter of Perspiration is impeded in its Passage, and fills the Vessels too full ; and as few have so exact a Structure of Parts, as to be every where alike well fram'd, it will follow that some will be troubled with Headachs, others with Pleurifies, and others with Fluxes upon Colds ; not but that it is the same Matter which occasions all

all these Disorders ; but the Vessels of some are laxer or tenser in one part of their Bodies than in any other, and therefore a determinate Fulness will affect these People, according to their peculiar Structure. I know no readier way to account for Persons being so habitually afflicted with certain Diseases upon Debauches, or Cold, than this peculiar Frame of some Parts : This is what we experience daily ; we meet with habitual Diseases, and are consulted about their Prevention, but I don't know that sufficient Provision has been made about this Affair, wherefore I shall take a short View of it, and give Directions how to proceed in such Cases. The Intentions of Cure, and therefore of Prevention, are to unload the Vessels to their ordinary Size and Fulness, which is best guess'd at by Alleviation, by Bleeding, Physick, Emetics, or Diaphoretics, among which I reckon *Friction* ; and to soften or harden the Part affected, by Fomentations, or Unguents, or Internals ; thus, I say, we cure, and in order to prevent these occasional Diseases, we must keep the Body empty by Fasting, Exercise, or Evacuations, and must apply the same Externals, as we wou'd in the Disease, if present. So that Friction has its use in Headachs, in promoting a more plentiful insensible Evacuation ; it is therefore to be made use of, till it has depleted the Vessels

to a determinate Pitch, but a very few will be so patient as to expect or wait its good Effects, because they are of the Opinion, that nothing can serve their turn which does not act like a Charm, so they have recourse to letting of Blood frequently, and bring on a weakness of Constitution ; whereas, if they could set up contented to bear their Pain with Patience for a while, and apply strenuously to Chafing, it would answer their Ends effectually, and they might preserve themselves hail and strong. I don't however speak of Headachs which threaten sudden Danger, and which require therefore a quick Depletion of the Vessels ; because if these were not suddenly reliev'd, we must expect Lethargies, or even Apoplexies to ensue their Neglect ; but I speak of those Headachs common and habitual to Women and tender People upon catching of Cold : They allow us time to look about us ; and in them Friction, on the Part principally, but also over the whole Body, will be of great Service and Benefit.

WE find them also recommended in Hysterical and Hypochondriacal Patients, who are plump and fat, and who cannot use Exercise : If Perspiration goes forward in a regular Manner, many Diseases are prevented, or at least many of them when rooted, are made tolerable by it, because the least Excess of Fulness in our Vessels, puts some
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People upon the Rack : No Diseases vary their Shapes more than *these*, from Pains, they wander on a sudden to Convulsions ; from Convulsions they return to Colicks ; and from Colicks perhaps to a *Delirium* , they are never the same for an Hour together, never did the Moon change its Figure, or *Proteus* his Shape, oftner than *these* their Symptoms ; and as the Stoppage of Perspiration, or however a more sparing Secretion of that Matter, give Rise to many of their Ailments, by adding fresh Fuel to their fermenting Blood, Friction may also be of Service to such People, if they throw it into the Scales with other proper Specificks against these lasting and tormenting Diseases ; and Custom now prevails in Hysteric Fits, to chase the extreme Parts, because it invites the Blood thither, and gently relaxes the Fibres, and thereby unbends the whole System of the Nerves. That Perspiration, when obstructed, is an Occasion of these Diseases, will appear from the nature of the Matter of it, which is *saline, oleous*, and *watry*, as *Bellini* says ; but these are the very Principles introducing Struggles in our Mass of Blood : No wonder then Hysteric Women should suffer under such a Retention, when their Nerves are already highly dispos'd for Contractions. There can be no other Principles within us, than these mention'd ;

tion'd ; and as these Salts exceed the oleous Parts, they shrivel up the Nerves, and render them dry and rigid, or at least so tense, that the least twinge puts them into Action, that is, into Contractions. Take a narrow View of these Patients, and we shall plainly perceive the Blood alone cannot give Rise to their Symptoms ; for how can that parcel of Matter, lodg'd in, or circulating thro' the Vessels of the Head, for Example, give Pain instantaneously in the Breast or Bowels ? But supposing a Contraction for its Cause, 'tis easy to see that one Nerve running in *Cases* to various Parts, may be drawn up, and bring its whole Bundle into the the same Condition in an Instant ; and the different Parts, to which this Nerve runs, may be affected in a Moment.

THIS Exercise is commended in *Nervous Rheumatisms*, and more especially in *Scorbutic* ones ; few make a Distinction between these two, but they differ widely in their Symptoms, altho' the former often succeed the latter : When the Blood has been habitually tainted with a Scurvy, the Spirits become of the same Stamp, and then the Nerves suffer in Proportion : In the *Scorbutic Rheumatism*, the Pains shift from Place to Place without any Swelling, and they are increas'd by Night ; but in the *Nervous*, the Pains, how wandering soever, are yet accompany'd with Convulsions in the Tendons,

dons, especially in the Wrist; they are Periodical, but don't always infest the Patients a-Nights. They differ in Degrees, and in the Seat of the Disorder; and therefore they require some different Measures; but as to the Chafing, it contributes to exhale part of the Salts introducing either of them, by opening the Pores, and moreover it softens the Fibres and unbends their Contractions. I have been inform'd of a whimsical Method of relieving a flying Rheumatism, which was not attended with a Fever, namely, by stoving the Sheets with a Warming-Pan, in which, *Myrr*, *Olibanum*, *Lubdanum*, and other Gums containing volatile Parts, were mixt and thrown upon the live Coals, and putting the Patients into them whilst yet warm: The Steams of these entred their Pores, so as to evaporate the Humours and give Relief: However trifling this Method may appear, it has its Foundation on Reason, and acts in part as Chafing wou'd do. And this same Friction is found to be useful in the true Rheumatisms at the decline of the Fever; for then as has been already observ'd, the Water settles, and the Humours are digested enough, and render'd passable thro' the minuteest Pores; and by Consequence, Friction will encourage the Tendency of the Matter towards
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that Part, namely, the Skin, which is the most Convenient for its Extermination.

* GALEN observes to us; that Friction relieves periodical Pains, if we chafe the Parts two or three Hours before we expect them; because, says he, it diverts the Fluxion on the Part, and renders it less capable of receiving Damage; but this does not hold good, for the ready way to draw Humours to the Parts is to use Frictions; as they are a *passive Exercise*, they invite a Flux of Humours to the Parts; therefore we must find out another *Rationale* for this Advantage accruing to such Pains, this not serving our Turn; and if we consider that the Seat of periodical Pains never resides in the Part affected, as to the † *Causa mandans*, but only as to the *ill Confirmation* of the Part receiving; we may then see that the Friction by opening the Pores, by softning the Fibres, and by exhaling part of the Fluids thro' the Pores, prevents that Plenitude or Rarefaction, or some other Cause, from whence those Pains originally Sprung; and therefore *It* serves at once as an Evacuant and a Diversion, by which Artifices the Humours are both put into the Condition of flying off, and the

* L. 5. de *Sanitate tuenda*, † The Cause from whence the Humours are deriv'd to the Part affected, for Example, the Heart or Nerves, &c. Fulnesses, &c.

Part is also fitted for its Reception, without the Danger of being put into Spasms, which they wou'd surely be, if we did not thus prepare them. Whether Friction alone will always answer the Point, is more than a Question ; for since the Periods are always found to depend on the Accesses of Fevers, the Bark of *Peru*, after a sufficient Evacuation of the Humours, bids the fairest for taking them off Cadically ; however, I have found this Medicine fail me in a periodical Nervous Pain, and in that Pain, which the Professor *Michael* terms the *flatus furiosus* : In the former *Opiates* had the greatest Share, and in the latter *Chalybeates* did the Feat, *Opiates* from an Idiosyncrasy, having upon repeated Tryal, at the earnest Request of the Patient, dispos'd her to a Palsy. It is certain that Blood thoroughly deprav'd, but yet producing periodical Pains, sometimes eludes the force of the Bark ; this Blood is a Mine full of Destruction, the Bark can't enter it, nor consequently conquer it, till part is emptied, and part is chang'd, and then it ceases without the Assistance of this Drug : 'Tis in vain to give *Elogium's* to Medicines beyond their Deserts, Physicians shou'd avoid Panegyrics ; they shou'd tell Facts, and leave it to Time to find out the Reasons.

IF we consider the various Causes of *Lassitudes*, we shall find why Friction proves

a Relief to them. We have already observ'd that Chafing, as it is us'd, may either harden or soften the Skin; and that it may either diminish the Quantity, or invite more Humours to the Parts chaf'd; we are to consider now what *Lassitude* is, whether occasion'd by Exercise or Diseases, We will, if you please, take Notice of some Diseases generally accompany'd with *Lassitudes*, and see from what Causes they proceed; of this Kind is a Jaundice, where the Bile is blended with the Blood; and, as it is gross and viscous in this Obstruction, both the Spirits and Blood will be of the same Nature, that is gross; and on such an Occasion this Viscosity will hinder the Secretion of Spirits, so that few will arrive at the Muscles; and therefore we will find an Impotence to Motion, and the Parts will be loaded with Contents of a gross Nature, so that the Muscles will be full, and feel weighty; and therefore they have a Weariness upon them. In the cold and sour Scurvy, they complain of a Weariness of their Joints; there is a Fulness, because they feel heavy; the Juices are gross because the Acid coagulates the Oils of the Blood; there is therefore a sort of Stagnation, or at least a slow Circulation, depending on the Quantity, and the Viscosity of the Juices: There are few Spirits secreted, and therefore the Muscles are ill supply'd for Motion,

tion, and the Weight of their Joints is an Argument of Matter stagnating and gravitating, which gives us the Idea of Weight. Hyſterick Women often complain of Wearineſs, their Blood is ſour, and their Spirits are few: If this is the Caſe, and the Hyſterick Cordials ſo often preſcrib'd for raiſing the Pulse convince us it is, then they can't flow into the Fibres ſufficiently, and therefore they feel an Inagility, or, in other Words, a Wearineſs. But the greateſt Inſtance of Wearineſs we have is in Fevers, whether high or low; in the high the Blood boils and blows up every Fibre to a full Stretch; there are Spirits enough afforded from ſuch a Blood, and yet they are weary and feveriſh all over them; ſo that the Caſe muſt not be a Scarcity of Spirits, but a Compreſſion of the Nerves; the Blood-veſſels are full, and ſo are the Nerves, but the Fibres being over-ſtretch'd preſs upon the Nerves, and hinder a ſufficient Quantity from flowing into them, and by conſequence deprive the Muſcles of their Supply, and make them unable to move, and this creates an Unwillingneſs. From this ſhort View we may know why Friction will be uſeful in Wearineſs; namely, becauſe in a Preſſure it exhales Part and unloads the Burden, and becauſe in an Obſtruction it opens the Parts, and invites an Influx of Spirits; ſo that in a Conſumption the Friction ſhould be much,

much, but in an Obstruction, moderate; for it is easy to understand, that moderate Friction only invites Humours to flow to a Part, but that hard Friction not only invites them thither, but also exhales them: So that a *Momentum* added to stagnating Humours, opens Obstructions; and any Discharge empties a Plenitude, from which two Causes Lassitudes proceed.

I have shew'd above, that Chafing was us'd in sleepy Disorders; I shall now take Notice of a different Effect of it, namely, that it will occasion * Sleep, if it be us'd pretty much. I have observ'd that Sleep, depends upon a determin'd Degree of Motion thro' the Tubes of the Brain, below which we feel weak and feeble, and beyond which we are restless, and run into Madness sometimes: If then the Blood runs vigorously on through the Vessels of the Brain, Patients will complain of restless Nights, the Spirits will be generated in too great Measure, and their Motion or Velocity will bear an exact Proportion with their Quantity; so that the little Bundles of Nerves will be stretch'd greatly, and their Contents will be hurried forward, and will continually keep the Nerves in a tremulous Condition, which will excite Ideas suitable to their Motion, and will

* *Galen, De Methodo medendi. L. 12.*

keep us awake: If any Method could be contriv'd to determine their Bent to another Goal, and to make the Spirits run plentifully to our extreme Parts, probably the Brain might be drain'd thro' this Passage, and might be unloaded to such a Pitch as would render their Motion thro' the Brain calm and sedate, then Sleep might ensue: But Friction bids fair to answer this End, if us'd with Freedom, because then it proves a *Divertive*, and draws off Humours from the Brain to the Parts so roughly chafed, that it lessens the Quantity, and that calms the Velocity of the Fluids in the Nerves, so that Sleep often ensues. When Opiates are contraindicated and Sleep is requir'd, Friction ought to be attempted as a *Succedaneum* for them; they will serve the Turn more safely than the *Epithemata* us'd upon such an Occasion to the Forehead, which act univocally with *Opium* administered Internally, and may therefore include Danger: So that Friction is good to drive off Sleep, or procure it, in the following Manner, namely, when the Brain, in sleepy Diseases is overcharg'd, and the Tubes of it cease to be elastick from this Load lying upon them, and stretching them beyond their natural Tone: Friction invites the Flux of Humours from this Organ to the Parts chaf'd, and so soon as the Head is discharg'd of a certain Quantity, the Fibres

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return

return to their Office of Contraction and Dilatation, and do greatly contribute to propel our Fluids in their proper Course, upon which a due Motion is kept on foot, and then they awake out of their Doze; whereas, if the Fluids run on too briskly, and keep us in a watching Condition, the Friction, by abating the Quantity, also abates this Swiftneſs, and this again brings us to Sleep; ſo that as we obſerv'd above, it is the State of Motion of our Spirits, that governs Sleep, which, if too great, keeps us awake; but if too ſlow, whether from an Oppreſſion or a Scarcity, we fall aſleep.

WHOEVER indulge in drinking exceſſively, ought to chaſe next Morning, or as ſoon as they awake; becauſe Exceſſes heap up Humidities, which being retain'd within us, occaſion Plenitudes, and thoſe introduce Numbers of Diſeaſes: If we don't exerciſe, or our Affairs don't permit us, Bruſhing is a Supply and ſerves to draw off thoſe abundant Humours thro' the Pores; which, if they reſted within us, would overwhelm us; but this Friction muſt be heartily done, becauſe Evacuation is requir'd, as the only adequate Remedy for Plenitudes.

FRICTION is alſo commended in a *Ganglion*, becauſe that Diſorder depends upon an Obſtruction, or a Viſcidity lodg'd in certain

tain Tracts of the Tendons, which readily betrays it self, by moving it; for the Tumor will not move upwards or downwards, but sideways, and is in some Measure transparent, or however, of the same Colour with the Skin; it yields upon hard Pressure, and rebounds quickly: Common Methods are too weak to break this glutinous Humour; it is stubborn, and therefore Friction or rather Percussion, is call'd in Practice, to attenuate the gluish Particles, and to remand them with some Force into the Channels, which have been so long obstructed. I have known a Tumor of this kind, of long standing, sink in an Instant, by a sudden Sprain, by which the Hand was jerk'd and stretch'd; and if we take a View into the Nature of such a Tumor, 'tis easy to conceive that some Fibres of a Tendon may be obstructed, while the rest are free; and after the Manner of other Swellings, the Tubes thus obstructed enlarge their Dominions, and seem to frame a common *Cystis* or Bag to themselves, in which the Humours reside; so soon as the Point of Impediment gives Way, whether by a Blow or gentle Friction, the Blood presses on the Humour attenuated into the Course of the Circulation, and then the Tumor begins to subside.

FROM the Principles hitherto settled, it appears as I have already hinted, that im-

moderate Friction will bring on an Atrophy, as surely as the moderate will plump; because, as all Evacuations continu'd for any Length of Time must drain a Body, if the Repairs don't bear a greater Proportion then the Consumption, so Friction indiscreetly us'd, will make Persons lean, and render them liable to all the Consequences of a natural *Marasmus* or Wasting; that is, it will impair their Flesh, take of their Spirits, flatten their Stomachs, render them stupid and unactive, bereave them of Virility, occasion a Sterility, throw them into Convulsions, bring on * *Aridura's*, *Cæliac Passions*, Hiccups, *Tenesmus's*, and many more terrible Disorders; for as *Mesue*, in his Aphorisms, observes, † *Diseases arising from a Deficiency of Quantity, are not fewer then those Diseases which spring from an Abundance of the same*; and therefore Physicians offend by having recourse to Physick too suddenly, as is too common with the better Part of the Faculty.

HAVING recounted several Advantages as well as Inconveniencies attending Friction, it is high time for me to take Notice how long it ought to be continu'd; and, as the Diseases it is found of Benefit for, and we

* Particular Atrophies.

† Morbi qui oriuntur a Defectu Quantitatis, haud pauciores sunt eis Morbis, qui oriuntur ex earundem abundantia; ideoque peccant Medici celeri accessu suo ad Purgantia.

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Experience it prejudices, are different in their Causes, so there are certain Limits, it ought not to exceed: In general, where Humours are to be invited only to the Skin, and the Fibres of the Skin are to be soften'd, gentle Chafing will answer these Purposes which is to be continu'd till the Flesh grows red, and swells or plumps up: But on the other Hand, where we would evacuate Humours, or harden the Skin, we must chafe till the Redness and Plumpness fall again; and it is to be remark'd, that any Friction whatever gentle or hard, serves as a Revulsive, but it should be consider'd in a true Light; for if we are only oblig'd to invite Humours to the extreme Parts, gentle Friction serves the turn; but if we are also to evacuate them, the Parts must be roundly chaf'd: And as a sufficient Account has been given of these Effects in the foregoing Pages, I shall pass on to another sort of Exercise mention'd by Authors of the first Rank.

THE various sorts *Baths* come under the Notion of Exercise, inasmuch as they are voluntary Changes from one *Medium* into another, by which the Fibres are variously agitated or exercis'd: The Pressure, and the Heat or Cold of Water differs hugely from those Properties in the Air; and when Patients do hastily plunge themselves into Water, the Fibres receive sudden Shocks thereby, which must of

course change the Velocity of the Blood and Fluids instantaneously; and all those Alterations which can be effected by the change of Velocity, must ensue, which are in Truth, very numerous: The Vessels had need to be very sound to bear so sudden Changes in their Vibrations, and so quick an Alteration in the Motion; which if they are not, they must be split in many Places, and must bring on Hæmorrhages, or other Fluxes proportion'd to the Vessels broken: It behoves the Physician to consider the State of the Fluids and Solids nicely, before he advises Patients to Bathe; 'twas this Indiscretion, which, at the reviving of the Cold Bath, brought a sort of Disgrace upon it; many out of Curiosity, and others being out of hopes of Recovery by other Means, ventur'd into the Cold Bath at all Hazards, and accordingly they suffer'd for their Indiscretion: it was cry'd up as a *Panacea*, and no Disease could withstand its Force; but being instructed by many Mistakes, that it only serv'd some Purposes, the fondness of it abated, and at last People have dwindled almost into a total neglect of it: So that it fares with Physick, as with our Cloaths, we change Fashions, as if *Mode* were only to be follow'd, and Indications were to pass for nothing. How great pity is it, that any Man of Skill should lie under the Misfortune of ill Success; there

there will not be wanting some, who will impute it to a neglect of some *modish* Discharge, for which perhaps there was not the least Call: But *malitia Medicorum pessima*, if the Patient of any one Physician, not concern'd in a *Junto*, chances to drop, it must be the fault of the Physician employ'd, and not the Disease: These little Arts serve only for Recriminations, and for abating the Credit of Physick in general. *Dipping* in cold Water was all along practis'd in some Counties in *England*; and many found great Advantage by it, but few took the Natural Causes into Consideration; they attributed it to such Reasons as confin'd the *Bathers* to certain *Wells*; as if the natural Properties of Water could have their Effects no where else, or as if these Properties were not natural to cold Water: If any extraordinary Effects have been found accruing from the use of such cold *Baths* which are not accountable for by Reason, I readily assent to what other Cause any one would expect to assign for it.

THE common Effects of cold Bathing are, that it dissolves the Blood; it shakes off any Viscidity adhering to the Walls of the Fibres; it purges the Glands, increases the celerity of the Fluids, drives forth Urine, and removes Obstructions, contracts our Fibres, and promotes all our Secretions; but then it is never to be us'd in internal

Ulcers, and in weak Bowels, infected with Inflammations or other greivous Disorders: Wherefore it relieves Madness, Headachs, Inflammation of the Eyes when they decline, *Hydrophobia*, leprous Eruptions, Watchings, Colicks, Epilepsies, and Stupors; but is never to be us'd in the Vigour of Inflammations, in Consumptions, Scirruses, and other obstinate Diseases; because the Fibres are much compress'd and contracted into a narrower Compass, and the Fluids will then run faster, as the Channels they are contain'd in are straiter; the Computation of this Pressure is different as the Depths differ; but in dipping, the Body suffers different Pressures: The Head being a Foot under Water, if it be of six Inches Diameter, and six Inches deep, suffers a Pressure proportional to its Surface and the Depth; that is, it has a Weight upon it equal to 76 Pound; but the Feet, being perhaps five Foot under Water, suffer a Pressure equal to 410 Pounds, according to their Surface and Depth of Water: From whence it may easily be guess'd what Posture is to be observ'd in plunging; for if we would have one Part more press'd than another, we ought to place that Part lowest in the Water: So that to order Dipping without observing this Caution, is as unreasonable, as to refuse it when necessary; we are sure some Parts are weaker than other, and 'tis cer-

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tain if greater Pressure be necessary any where, 'tis on the weakest Parts, and therefore ought they to be plac'd lowest. *Galen* tells us, "That Immersion in cold Water gives Appetite, and helps Concoction, quenches Thirst, and Men may use Exercise the Day after with a better Habit; the Bulk indeed will be the same as before, but more compact, more muscular, and more lively, and the Skin harder and denser": He there also assigns the Bounds we should not exceed in Bathing; "If, says he, the Persons bathing and coming out of the Water, become soon higher colour'd by Friction, 'tis a sign they have staid in a moderate Space; but if their Colour is long a coming and returns slowly by Friction, they have staid in too long; wherefore says he, you will learn the Measure of Bathing from the Skin."

This is well observ'd; but as we know a Minute or two sufficient to do those great Feats above-mention'd, when our Design is to accelerate the Blood's Motion, and to return the due Elasticity to our Fibres, so we seldom advise them to stay longer in at a time, continuing the Dipping for a Week or Fortnight in the Summer especially, and emptying the Vessels before we attempt it. We know many, who have a mind to harden themselves so as to bear all Weathers and any Severities of Cold, plunge also in the Winter

Winter Season, and with good Success: And I knew one Gentleman, who was extremely hypochondriacal, that us'd to break the Ice to plunge himself, and found Relief in his Disorder by so doing; but then, as the above-nam'd Author well observes, * we should begin in Summer, if we design to plunge in Winter; *Tempus autem ad id percommodum, est aestatis initium, ut ante hyemem, toto interposito tempore consuetudo minimè spernenda inducatur.* 'Twere hardly possible otherwise to accustom ourselves to it; nay, it would hurry Fevers, and other Disorders; I have known some tender People thrown into Fevers by bathing in the Summer Season, and if we suspect such a Constitution, 'twere advisable to accustom them to sponge themselves in different Parts of their Bodies at different times, with cold Water, before we plung'd them over Head.

THE *Hot Bath* is also found convenient for many Diseases, as Writers have shewn us; they also act by their *Weight* and *Warmth*; the Weight compresses the Fibres, and returns their Elasticity, but the Warmth dissolves the coagulated Fluids. 'Tis observable, that Warmth, according to its Degrees, has different Effects upon our Solids, for a gentle Warmth relaxes them, whilst a violent Heat crispsates them, and as it is the

* L. 3. De Sanitate tuenda.

Property of the Cold Bath to make the Fibres tense and rigid, so it is a Property of the Hot Bath to relax, or to make tense and rigid the Fibres every where; we see how readily the Stomachs of Topers relax'd by drinking too much Malt Liquors, are restor'd by drinking the Bath Waters very warm; and on the other hand, we know that Bath Waters us'd externally luke-warm will relax the Parts; for Persons who have by Riding hard become tir'd, are recover'd by Bathing in warm Water. So that very different Effects are produc'd by a various Use of the same Material; and this holds also good in all Liquors drunk warm or hot; Tea and Coffee not excepted; Fomentations themselves which are emollient, if apply'd very hot, serve also as Discutients; their soft, smooth and oily Particles relax much, their fiery Parts attenuate, but when Humours are attenuated, and Fibres relax'd, the Fluids are shov'd forward by the force of the Circulation; if the Fire contain'd in these Fomentations be excessive, and oily Parts retain a great deal of it, they are not at all emollient, the Heat being superior in Force to the Effects of Oils. This Caution ought to be observ'd by the Surgeons, who have Occasion to apply them daily for the Dispersion of hard Tumors.

To recite the Advantages reap'd from, and the Damages done by Bath-Waters, wou'd
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be too tedious a Task for these Sheets, those Affairs being well handled by Writers on them; however, it will not be taken amiss, if I recount to the Reader in a transitory View, what we must expect from Bathing, or the external use of them principally. In Disorders of the Lungs externally us'd, they are often prejudicial; and particularly in the Fit of an *Asthma* Bathing is hurtful, because it hastens forward the Motion of the Blood, and in this Case the Blood is already too much mov'd, or however in habitual *Asthma's* the Vessels and Pipes are compress'd by Tubercle's and other Faults of the Solids, and can therefore at no time circulate the Blood freely enough, much less can the Vessels bear a greater Proportion than they usually do, which they must by Bathing. Patients subject to *Spitting of Blood* cannot bear Bathing, because the least Augmentations of Bulk open Vessels afresh, and bring on Bleedings: Neither are they proper in Consumptions, which are Glands inflam'd or ulcerated; the Blood in beginning Inflammations shou'd be dissolv'd and attenuated indeed, but not by Medicines, which add a hurry to our Blood, such as we are sure Bathing wou'd effectually do. They who are of a costive Constitution shou'd forbear Bathing, because if we increase Perspiration too much we lessen other Secretions in proportion; the *Mucus* therefore of the Intestines wou'd grow.

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grow dry, and the Excrements wou'd be glu'd fast to them, and we shou'd then advance Costiveness into the iliac Passion it self, and at last into Inflammations and Gangrenes.

HOWEVER where the Blood and Spirits want Warmth and Motion, as they do in several Diseases, Bathing comes in play; *Pumping* in fixt Pains is daily practis'd with success at *Bath*; the exceeding Warmth attenuates and dissolves the Humours, which have rested long upon the Part, and puts the Fibres into such effectual Oscillations, as sets them a packing into the Mass, which ought not to rest like Levain, there to corrupt the remaining Mass, but Purgatives and proper Alteratives ought to accompany this Pumping to throw them out with all convenient Haste. Paralyticks have found Relief in Bathing, and it happens, because the Nerves being relax'd and obstructed, are put into Tremblings and Vibrations afresh. Nothing can more effectually shake off an adhering Viscid, than the Motion of a Vessel; and as the Warmth dissolves the Fluid, it also gives a proper Shock to the Nerves, and shoves on the stagnant Matter, and they begin afresh to execute their Function. In Contractions of the Limbs, where the Joints become inflexible by a strong Impaction of Humours, which by length of Time have grown tough and dry, and have thereby stiffen'd all the Tendons, and shrivell'd them
up

up to a great Degree, it is found that Bathing by thinning the Juices, by making the Fibres capable of sending the Parts which had taken up their Residence there, into the Mass of Blood again, and by enlarging their Dimensions every way, has given such Relief, that many of them have left their Crutches behind them as Monuments. Bathing also is found of use in the Whites, because they are an Effect of relax'd Glands spuing out a Quantity of Liquor proportion'd to their Orifices; and after proper Means us'd internally, plunging in the Bath Water as warm as they can bear it, contributes to draw a Flux of Humours to the Pores of the Skin, and diverts of Course, a Flux to the *Uterus*, and moreover so warm a *Fetus* crispates the Fibres of the *Uterus* with its Glands, and relieves their Flagginess, and furthers a Cure: In a Stone of the Kidneys, a *Semicupium* of Bath Waters serves to relax the Ureters, and to make them give way to the Stone; if common Water warm'd, or if boil'd with Emollients, have been found useful in such a Case, well may Bath Waters relieve; but here it must be remember'd, that no *Infessus* shou'd be too hot in the Stone, for fear of crisping those Fibres, we design to enlarge. I have often succeeded in very large Stones, by making the Patient sit up to the Waste of an emollient Bath, and by giving internally some Drops of the Tincture

ture of Cantharides in proper Liquids ; the Bath relax'd the Passages, and the Diuretick Tincture push'd the Stone down, which was all that was required. Windy Colicks and Wind in the Stomach, are assisted by Bathing, as warming takes off the Flatulency of Liquors, the Heat raises up the Viscosities in which the Wind is lodg'd, and evaporates it ; so that such Persons are observ'd to void it by the Mouth and Anus : However a *Medium* must be observ'd in Bathing, lest we evaporate too much and thicken the Humours. Those white Swellings on the Joints cur'd by Pumping, are a fair Proof that the Bath discusses and contracts the Fibres, and their relaxing contracted Limbs, shews they do relax : However these different Effects don't depend only upon their opening Obstructions, but upon the different Warmths of the Bath, which we have already observ'd, contract or relax, as the Heat exceeds, or is moderate. We find Bathing commended in the *Rickets*, and as they are a Species of the Palsy, 'tis easy to know, by what is already said, how it relieves such Children : It also relieves leprous Cases, by washing off the Salts from the Skin, by rectifying the Pores, or by closing up the gaping Orifices of them ; and remember * *Craanen* relates a particular

* Dissert Physico-med. de Homine p. m. 359.

History of himself, how Parts may be injur'd; and yet the Blood be safe: He tells us, that this Ferment is not greatly communicated to the Blood, while all things go well with scabb'd Persons, but it remains in the Humours circulating thro' the Parts: Hence also it comes to pass, that it is more easily and sooner cur'd by external Remedies, than any Intervals, with which they perplex the Patients, and yet avail nothing with their Decoctions, Julaps, Apozems, and the like.

" I have, says he, a fair Example of this
 " Affair in myself. When by Misfortune, I
 " lay with a scabb'd Bedfellow in my Tra-
 " vels, by Infection I became also scabb'd,
 " and went to *Utrecht*, and committed my
 " self to the care of a certain Professor,
 " who boasted how many he had cur'd in
 " a short time, which however prov'd false
 " in myself; for when he had prescrib'd
 " divers Decoctions and many Apozems,
 " and such-like, without any Advantage,
 " neither could he cure my Disorder; and
 " when I had staid there for half a Year,
 " I betook myself to *Leyden* for my Stu-
 " dies, and went a swimming with my
 " School-fellows in the Sea, and was cur'd
 " insensibly by the Sea-salt rushing into
 " the Pores of my Body, which it some-
 " way disposes and fits, that the internal
 " Salt sticking to the Pores may pass off
 " and thus I was deliver'd I know not how.

How

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How far the Blood of leprous Persons may be deprav'd 'tis hard to guess; but if the Humours be thrown out of the Blood by a *Translation*, there will not much be contain'd within, that is not breeding from time to time; for let us consider the Nature of a leprous Eruption, the Humours at certain Periods break forth, turn red and swell, and at last scab and scale off; in many there is a considerable Interval, when there are no Scabs at all upon the Parts; for some I have known who have had Monthly Eruptions, others Quarterly, and others who only had them once in half a Year; and others again I have known cur'd by Fits of the Gout: So soon as the Translation is made, the Blood is free for a while; and a Repulsion of leprous Eruptions is very dangerous; as I experienced in an old Matron, who at all Hazards, desir'd me to repel them, because they occasion'd so intolerable an Itching, that she protested she neither could nor would bear it: As soon as her Desire was fulfill'd, I was call'd upon to relieve her of an Inflammation of her Kidney, which when I had done, by frequent Bleeding, she rested convinc'd of her Error: 'Tis certain that all Men have greater Discharges at some Seasons than others; and *Sanctorius* in his 65th Aphorism, tells us, that even Men, using a moderate Diet, grow heavier every Month by a
Y Pound

Pound or two, and that they return at the end of the Month to their usual Weight, by making more Water then commonly. And Aphorism 66th, before this menstrual Flux by Urine they feel a Heaviness in their Heads, and an universal Lassitude. 'Tis very natural to suppose, that a Suppression of this Monthly Evacuation may give the first rise to such Eruptions, and which take up the place of so much Urine, or of this Heaviness and Lassitude; and once the Blood finds a Passage for throwing the Load off by the Skin, it becomes a constant Sink for such Humours ever after: Whatever therefore takes off the Scabs and supples the Skin, so as to promote Perspiration duly, may prevent the Eruptions, and Bathing is found to have this Effect in many, where the Case is not so inveterate, that the rectifying the secretory Ducts is become impracticable. Bathing is practis'd to prevent Miscarriages, because a Weakness of the nervous and membranous Parts is brac'd by the great Warmth in the Waters, and the styptick Particles in them; so that tho' it does not touch the *Uterus*, yet by bracing up the other Nerves and Membranes, this Part will also be brought to the same State, and be render'd capable to sustain a Burden much better. If they are good in fix'd Pains, they are also found beneficial in scorbutick and wandring Pains, where the Parts are infest-

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ed with temporary Obstructions or Emotions; these Pains have merited the Name of the *Wandering Gout*, and are Retainers to the Scurvy; the Bathing is found useful in them; but yet we are forc'd at the same time to administer all the warm Anti-scorbuticks, in order to attenuate the Blood, and correct those Sources of sharp Salts which tear and rend the little Fibres every where. History relates some odd Instances of Convulsions reliev'd by the Bathing in the sulphureous Baths: If we consider how differently these Diseases are produc'd, we shall then know in what particular Case the Bathing is conducive; the Nerves are often loaden with a Quantity of Humours, which are Relaxing, and yet Irritating; and as the Waters are exiccant and Evaporators of Humours thro' the Pores, they prove of some Service to these Cases: I know a Lady who could not move her Limbs at all, but at certain times they were drawn into Convulsions; she recover'd at the Bath by Bathing and Drinking. I shall not take upon me to mention all the Advantages accruing from the Bathing in warm Baths.

THE next Exercise we shall take Notice of, is *Walking*, where we are to observe this Maxim, that it must always be proportion'd to the Strength of the Body: Weak People must avoid immoderate Walking, and Parts too much distorted must not

be strain'd by Walking much; for as Humours don't circulate readily thro' the injur'd Fibres, and by this Exercise a Flux of them would be invited thither, they would every Time they walk'd, be infested with fresh Defluxions; * wherefore Walking is notoriously known to be prejudicial to gouty Persons; if they should then walk much, and over *rough Ways*, what must they expect but constant Fits of the Gout? The old and Decrepit, the Strong or People recovering from Sickneſs, muſt not pretend to vye with the Young and Healthy; what would add Vigour to the latter, would demolish the former; neither their Spirits nor their Muscles would hold out; the first would be exhausted, and the latter would be scatter'd and relax'd; whereas in healthy People, whose Stomachs are good, and who require a good deal of Nourishment, this Exercise serves to send all our Blood and Fluids thro' the minuteſt Veſſels, that they may be divided into very minute Particles, and that the Secretions of the Humours may be duly perform'd thro' the Pores and Kidneys; and that fresh Spirits may be generated. It has been a Queſtion, whether by this Exercise more Spirits are not evaporated, than bred, to which it muſt be answer'd, that then ſuch Exercise is not

* *Cheyne*, p. 98.

justly proportion'd ; there is no doubt but every Action of the Day requires Spirits to execute it ; but so long as the Repair by Meat and Drink is greater than that Expence, they serve the Turn of Life ; whereas sedentary People for Want of this Benefit breed no Spirits, because their Blood grows gross for Want of Motion : Nature then is no *Miser* ; she hoards no more Spirits up, than what will sufficiently answer the Business of the Day, and this she supplies out of our Food. The measure of Walking, is a Lassitude ; so soon as they find themselves begin to grow weary, 'tis Time to leave off ; because, the Design of the Exercise is to put the Fluids in Motion, and to evaporate the abounding Humidities from the Solids ; when this is done, a Weariness seizes them, that is, the Blood-vessels begin to be over-stretch'd, and press upon the Nerves and hinder the Influx of animal Spirits : This would be acting against the Design of the Exercise, and would be turning it into a Labour ; a Communion of the Fluids, an Augmentation of their Motion, and an Exhalation of Vapours do not coincide with a Pressure of our Vessels, that is, too great a Rarefaction ; and therefore when we perceive ourselves to grow weary, we must rest contented for that Bout. It sometimes happens that a little Walking makes some fall a sweating excessively ; This

is a plain Argument, that those People abound with Moisture; and that their Bodies are very impure: Sweat is by no Means the Measure of this Exercise, but this Flowing is improperly call'd Sweat; and as it flows without any Lassitude, we are not to regard it, but must walk on, till we find ourselves grow weary, as I have observ'd; for however, the Humours flow from a Plenitude, they are not therefore sufficiently mov'd round, which is the main End of Walking; nor are they to cease from this Exercise, till, besides the beginning Weariness, the Sweat begins to run slower, and their Colour grows less lively, because when once the Fulness is discharg'd; the Remainder has Room to fly off in *Perspirabile*: Besides, these Sweats are only the Consequences of an Oppression of the Vessels, which load them so much as to hinder, if not destroy, their contractile Power, so that they flow merely from the Protrusion of the Fluids, by Virtue of the Exercise, that moves the lower Limbs, and all the Fluids contain'd therein, into the upper Parts; but as soon as the upper Vessels are a little unloaden, they, and all the Fibres regain their elastick Power; and then the Blood's Motion is under that Faculty, that is, the Vessels and Fibres contract and recoile, and thrust the Blood forward in a regular and stated Manner;

ner; nor has the Serum any leisure to drop it self thro' the Pores in Sweats, but only in Steams and Effluvia, which is the original Design of Nature; because, were the Pores design'd for watry Liquors to pass, they would be stronger fram'd; whereas under the present Circumstances, they would grow too flaggy: Walking therefore in this State of Humours shou'd reduce the Vessels and Blood to their natural Condition, wherefore bilious Persons shou'd use this Exercise moderately, because it evaporates the watry Parts in Steams, and reduces the Mixture to a greater purity or simplicity of Principles, so that the Fluids become intirely Bile, and introduce Diseases suitable to that Humour; whereas Phlegmatick Persons may use it more freely, yet moderately, because a gentle Motion encreases the Heat in the Blood, and that attenuates the glary Humours, for Bath Waters will with their Heat attenuate the White of an Egg, as has been observ'd by the Academy of *Paris* on the Waters of *Balleruc*; however, a greater Heat will render this Phlegm more viscid, and harden it, and so render it unfit for Circulation: And Persons whose Blood is viscid, and Fibres relax'd, and are therefore become Asthmatick, may for the Reasons already nam'd, be advis'd to gentle Walking, because the

Fibres will be strengthen'd by Evaporation of the more watry Parts that relax'd them, and the Phlegm will be thereby thinn'd and urg'd forwards in the Vessels, and that sticking in the Lungs will be shock'd off. It helps People who are troubled with Indigestions of the lower States, because it strengthens the Muscles of the lower Parts, and consequently serves to brace those of the Belly, by which the Comminution of our Victuals is much assisted; it also helps the Descent of them out of the Stomach, by the gentle Shocks given the lower Parts at every Step we take, and lastly by encreasing the Heat, it helps to attenuate the alimentary Tincture, and render it fluid enough for entring into the Laeteals, which without this Exercise, or something analogous to it, wou'd be viscid, and wou'd stick close to the Walls of the Intestines, and introduce Colicks and Iliack Passions. *Sennertus* takes notice of one Advantage by Walking bare-footed on a cold Floor, namely, that it promotes a Stool, and therefore advises Persons very Costive to use this Exercise on the cold Ground; but I'm afraid more Damage wou'd accrue than good from it, because Persons subject to Defluxions, had much better be Costive, then be always Coughing and Spitting, and weakning their Lungs with a Load of Humours; and besides, who but the Poor

Poor and Indigent dare venture: This however, may serve as a Caution to such as are troubled with *Diarrhæa's*, for as *Dolaus* says, *frigido lapidi insidentes vel pavimentum calcantes, Diarrhæâ corripiuntur.*

THIS Exercise is dangerous in the *Fluor albus* or Whites, because every Motion of the Legs shocks the *Uterus*, and throws off Humours adhering to it; and moreover, the same Shock invites an Influx of Humours into the Womb, which two Inconveniencies concurring, are too many for weak Creatures. I have observ'd some old Women, who were oblig'd to walk much up and down Stairs, strangely subject to this Disorder, and had it not been for the Indulgence, they are by Reason of their Faintness oblig'd to favour themselves with, they must have necessarily sunk into an Atrophy, which ordinarily speaking, they escape by thus comforting themselves; but then they fall into *Asthma's*, and rub on till Seventy. If it prejudices Women in the nam'd Disorder, it also hurts them in Bleedings of the *Uterus*, or in bloody Water from Men, for the Blood being mov'd more swiftly round, it grows hot, and takes up a greater Space, and blows up the Vessels, which being more open spill their Contents, and is not advisable in these Cases. And as I have observ'd on Riding, so I say of Walking,

ing, that it is prejudicial for those who have Ruptures to walk much: If an erect Posture is hurtful to them, much more is Walking, where the Bowels are toss'd at every Step from Side to Side, it forces the Intestines down thro' the Rings, and never will suffer them to recover their Tone. * *Sanctorius* tells us in his 13th Aphorism on Exercise, that if a Person that has laid long, shou'd be troubled with Pains of their Feet, Walking is a Remedy; I must confess it is not easy to understand how lying will have this Effect, or how Walking will relieve it; for Humours by Lying, don't usually attack any of the extreame Parts; however, if they do, Walking is inviting a Flux of Humours down to the Part already affected: If he means, that Gouty Persons, who by Ease and Indulgence have become such, will be reliev'd by Walking, 'tis contrary to all Experience.

As I observ'd that Walking was inconvenient for Bleedings of the Womb, it may be then justly inferr'd, that this Exercise is proper in an Obstruction of the *Menses*, for it attenuates the Fluids, and shocks the *Uterus*, and therefore helps them forward: It is for this Reason we advise such

* Si diu jacenti dolores pedum superveniant, remedio est ampulatio.

Women as are put into Steel Courses for the Promotion of them, to walk much afterwards ; for it answers, as far as it may, the end of Attenuation, which is the Remedy. * *Hippocrates* tells us, that Labour is good for the Joints and the Flesh ; and, that Walking helps the Mind. By Labour is meant strong Exercise, or Exercise turn'd into a Business ; and I have already observ'd where Parts grow strong by it ; but how Walking shou'd clear the Mind, is not so easily comprehended ; however, Men of clear Understandings must have Organs fitted for a free Circulation of Spirits, and must have Plenty of them, and as one Part may be much stronger than another, so it happens that ingenious Men don't often make the finest Figure : Ricketty Children, deform'd as they are, have often a fine Genius, the Head is well supply'd, and the other Parts are starv'd ; and as Walking evaporates the Humidities, strengthens the Fibres, and moves and attenuates the Blood, it necessarily helps to breed Spirits truly Ætherial, and this is all we can say how *animæ confert deambulatio*, namely, Men constituted with strong Fibres and Juices, circulating with ease thro' the Vessels, and furnish'd with Blood neither viscous nor sour, nor salt, but exactly pro-

* L. Epid. b. Sect. 5. §. 33.

portion'd in its Principles, perform their Functions with all the Exactness and Nicety requir'd by Nature.

PERSONS subject to *Palpitations*, should avoid much Exercise, because the Heart does not beat without a plentiful Influx of Animal Spirits, and this Influx determines the Pulsation; if therefore the Pulsation be irregular, we are well inform'd of the Nature of the Influx; and as Walking puts the Spirits into a swifter Course, so it hastens their Motion out of the Brain; but this Motion is for the most part irregular and explosive; so that whatever urges forward that, will occasion this: This holds good in all sorts of Convulsions, and in a particular manner if the Blood be too bilious, this Motion will still be more explosive.

WALKING, nay, all Motion and Exercise whatever is inconvenient in Madness, because such Persons should be close confin'd in dark Rooms, and kept free from any thing that will put the Blood and Spirits into a Hurry; whereas Motion would attenuate the Juices, and render them very moveable and fiery, and would surely encrease the Disorder. In this Disease every Method is us'd to keep the Blood low and poor, and to keep the Spirits in a Calm; and therefore it is we see nothing upon the Files of Physicians whose whole Practice lies this way, but Bleeding, Vomits, Purges, Blisters,

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Blifters, &c. repeated *ufque ad Nauseam*; they keep their Patients dark and feed them poorly: But as fuch People are in great want of Reft, Opiates muft neceffarily come in play; they calm the Spirits as a Charm, and proper Discharges being premis'd, nothing better contributes its fhare towards a Cure than *Opium*; but as it fixes the Blood and Spirits, the Plenitude muft firft be taken off: And what is here faid of *Madness*, may alfo be affirm'd of *Phrenzies*, where there is yet a greater Fury than in Madness, for the time it lafts upon the Patients, which is occafion'd by the Violence of the Fever and the Inflammation; and for thefe Reasons it is, that the Diet muft be more ftrictly look'd to: Opiates here alfo muft be avoided till the Evacuations are made; fo that Madness and Phrenzies are cur'd in the fame manner, only they differ in the Quantities; for as in Madness the Fibres are tenfer, and the Fluids drier, that is, very faline; but no where are the Humours truly fix'd, fo as to ftand ftill, and as it is an original Dif-eafe, Regard is had to the Dif-eafe without Referve; whereas in a Phrenzy the Fever is the Original, and whatever is done to cure the Inflammation and its Confequences, muft not exceed that Vigour, which will be fufficient to contraft with the Fever afterwards; for the Fever not having de-
pofited

posited all its morbid Matter on the Brain, that being cur'd without due Regard to the Fever, the Patient would slip through our Fingers at last; and whenever such an Inflammation is strongly fix'd, it must be a very dangerous Case, because the first and primary Indicant is the Strength of the Patient: If the Disease calls for more Discharges than these can bear, the Burden will prove too heavy for the Bearer, and Nature must of Necessity succumb. When Persons are left low, but yet free of any Disorder besides, the Kitchen alone will afford them Relief; but when they are dispirited, and moreover have a Disease to struggle with, the Repairs prove insufficient, because the Disease wastes them faster than they can fill, and we are oblig'd to load their Stomachs with Medicines proper for the eradicating of their Malady, many of which may take off the Appetite: Patients under such Circumstances are in a deplorable Case, they live miserably, and Life is hardly worth the Pains they are at for its Support: What is it they can now expect, when they find by long Experience, that notwithstanding the Physician's Care and Nurse's Indulgence, they lose Ground.

To know whether Motion would be of use in Coughs, the Nature of them should be consider'd; supposing the Stoppage of Perspiration to be the evident Cause of all of them,

them, yet the Blood may be differently constituted, for it may be phlegmatick in one, and hot or acrimonious in another; where the Blood then is volatile and saline, this Exercise would help to concenter it more, so as to render it nearly caustick, by exhaling the watry Parts, and leaving it very saline; and by thinning it so much, that great share would run through the Glands of the Lungs into the *Trachæa*, and irritate them continually, and at last exulcerate them: 'Tis not unusual to see thin and hot People, who are troubled with a Cough, to grow very lean, and cough continually, while they are oblig'd to stir much about. We Experience that Walking affects the Lungs, if our Journey be ever so little up Hill; and upon swift Motion, we see the same happens; so that they who are troubled with any Distempers of the Breast, should heedfully observe how Walking affects them; and as the fuller Parts are, *ceteris paribus*, the greater will be the Secretion: Then Walking, when thin People are affected with a Cough, must throw a great many Humours of a caustick Nature into the Lungs. Where the Cough is Asthmatick and the Lungs are only stuff'd with phlegm, Walking gently is useful, it helps Attenuation and Expectoration, and dries the Lungs and all its Ducts.

IN

IN spitting of Blood, Ease is commendable, for any Exercise whatever opens the Vessel a-fresh, by attenuating the Fluids; upon which account they swell and stretch the Mouths of the Vessels: Nor is this Exercise to be us'd where Persons are liable to Swoonings, because it wastes the Spirits, of which they have great need; and many are as subject to swoon upon Walking, as I have known others upon Riding, where they use it above their Strengths.

THIS Exercise is doubtful in Colicks, because if they proceed from an Obstruction of the Excrements only, Walking often shakes off the Adhesion, and promotes a Stool; so that the Winds pent up in the Cells of the *Colon*, will find a free Exit in a short time after; whereas, if the Cause of this Pain be an Inflammation of the Bowels, they will be more inflam'd by the most gentle Exercise; for, as I have observ'd, that all Inflammations are increas'd by touching them, so an afflux of Humours into an obstructed Part, presses it, and gives the same Trouble as Touching does it. Nor can it be determin'd, whether a Jaundice will be prejudic'd by Motion, till we consider the Cause from whence it proceeds: That from a Viscid obstructing the Passage may be reliev'd by any Motion, particularly by Leaping, so it be gentle and moderate,

moderate ; for all Viscidity of a phlegmatick Nature is thin'd by Exercise ; whereas, if a large Stone, or an Inflammation introduce it, nothing is more prejudicial ; because the first must not be mov'd by Force, and the latter is heighten'd by too copious an Influx of Humours, which must necessarily stand still and inflame the Part more. In like manner Dropsies may receive Damage or Benefit by Walking ; where Humours have found a Passage thro' a Branch of a Lymphatick, and are spilt into the Cavity of the *Abdomen*, Walking only thins the *Lympha*, and prepares it to pass more readily thro' the Breach, and does therefore hasten the Deaths of such Persons : And methinks this Consideration seems to be neglected too much in Practice, when People are Tapp'd for the Dropsy : The Breach of a Lymphatick is sometimes the Occasion of the Disease, which is often introduc'd from a slight Cause ; and what Alteratives can be of Advantage, if this Indication be neglected : Surely Stypticks ought to be given after Tapping, as the only Remedies to prevent the Lymphatick to ouse. Ought not we to proceed as much against the Breach of a Vessel in this Case, where Life lies at Stake, as in an *Hæmoptoe* ; but we find this main Indication neglected, and Courses of Bitters and Cordials are insisted upon, which will rather open, than

close the gaping Vessel; I am confident there wou'd not be Occasion for so repeated Tappings as we hear of, if this were a little better consider'd. However in the Anasarçous Dropsy, where the Humours are phlegmatick, gentle Walking attenuates the Humours and sets them in Motion; but it ought to be remember'd, that the Legs being a depending Part, must be kept in an horizontal Posture after it, or the Humours flow down to them, and stagnate there.

THIS Exercise agrees with Hypochondriacks; for the Disease does so frequently attack sedentary People, that it is the Bane of Students. Thus sitting, in a forward and curv'd Posture, presses their Bowels, their Stomach, Liver, and Pancreas, so that the Circulation is retarded there; and as the Blood stands still or moves slowly, it thickens and grows sour, and serves for Levain to the whole Mass: When the Disorder is thus begun, a Scene of Troubles ensues, which are entail'd on them as a Rentcharge; the Bitters, Chalybeates, Volatiles and Bath Waters continu'd from Month to Month, nay from Year to Year, do scarce return the Blood to its pristine Purity, there are still some Glands so obstinately obstructed, if not grown together by the Posture, that no Drug yet found is capable of opening them, and therefore

many

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many of them will complain for Life: Here Walking helps to attenuate, and in a particular manner, to drive the Medicines forward into the minuteſt Fibres, and it is accordingly commanded, when theſe Courſes are entred upon. What is ſaid of this Diſeaſe may alſo be affirm'd of the Scurvy, and indeed I look upon the former to be, generally ſpeaking, a Branch of this; but, having Regard to the Diſeaſe and Country jointly, Walking is conducive in both to attenuate the Juices.

LET us hear *Hippocrates* upon this Exercise: When a Perſon walks, the Body and the Viſtuals grow warm, the Body therefore is plump'd, but the Belly is made thin; and for theſe Reaſons it is dry'd, becauſe when the Body is mov'd and grows hot, the thinneſt Part of our Nouriſhment is partly conſum'd by the inbred Heat, and partly thrown out by the Urine, and the dryeſt Part of the Viſtuals remains; ſo that along with the Belly, the Fleſh alſo is dry'd. Morning Exercises extenuate, but make the Head light, free, and ready, and promote a Stool; they extenuate, becauſe the Body being mov'd grows warm; but Walking, after other Exercises, makes the Body clean, but thin; thus we ſee that Walking attenuates the Juices, ſhocks the Bowels, diſtributes the Chyle, promotes Perſpiration, and advances Nutrition, if pro-

portion'd to the Strengths of the Person that uses it; but on the other Hand, if it is immoderately us'd, it heats the Blood and Juices, dries them, makes us costive, evaporates too much by the Pores, and wastes us insensibly; for if it promotes Urine and Perspiration, as it surely does; and if we use it so much as to discharge more Humours than the Patient can supply with his Meat and Drink, the Repairs will bear no Proportion with the Discharge, and we must waste.

To conclude, this Exercise has its Advantages and its Inconveniences, as all others; and to determine in short upon it, the *Morning Exercise* is convenient for Persons who have drank much, and have heap'd up Crudities or more Matter than they can digest, because it depletes the Vessels of the Load they can ill dispence with; and of a Cacochymy, which must needs be introduc'd from the prevailing Quality of the Liquor they have swill'd; which if Malt-Liquor, it makes generally four gross Juices, and fills our Stomachs with Wind; if *French Wine*, it makes our Blood sour and astringent, and gives us Gouts, Stone, Colicks and *Diabetes*; it serves to raise an Appetite, because it hastens the descent of the Contents of the Stomach, and unloads it of whatever burdens it, and as it moves the Blood forward

and

and consequently promotes the Secretions, it must of Course help the Glands to throw out their Ferment into it; it also shakes off all Heaviness and Drowsiness, which, as I have often observ'd, depends on a calm Motion of the Spirits thro' the Brain; but the Motion of the Legs sets forward the Blood's Motion every where, and rouses us by moving it. This Exercise after Meat, helps it out of the Stomach, and therefore in Indigestions of the lower Kind, where the *villi* of the Stomach are not irritated enough to make it descend, this Motion puts the Muscles of the Abdomen upon their Duty of Compression, and they send it downwards thereby; there is one Caution of great Service to Persons troubled with Indigestions, namely, they ought to make use of a Swathing Band ty'd round their Middle, so as to compress the Stomach and Bowels; this is an artificial Supply for the Weakness of the Abdominal Muscles, which ought to squeeze the Stomach and the Victuals, thrown in, to a Pulp; 'twas an Observation of *Piso's* in Hypochondriack Winds, and he observes that it help'd Concoction. This Exercise in the Evening, helps to throw down Winds from the Bowels, by helping to attenuate the Contents of the Stomach; it prepares us for Sleep, because it fatigues and sends the Victuals into the Blood, which fill the

Z 3

Vessels

Vessels and load them, and therefore Sleep ensues upon full Meals. Walking up Hill fatigues, by laying a Load upon the upper Parts, inasmuch, as that Motion puts the lower Muscles in Action, and they compress the Vessels so much, that the Blood mostly circulates in the upper Parts, and occasions a Load in the Head, as is perceiv'd by the Flashing of their Eyes, Running at the Nose and Eyes, the Weight of the Head, and Drowsiness; and upon the Lungs, as appears by the Breath, which shortens as the Blood abounds in the Vessels there; and lastly, upon the Skin, as appears by a Weariness, and at last, by Sweats; both which plainly demonstrate a more plentiful Flux of Humours that way; and this Exercise much repeated, weakens the Tendons of the Knees by overstraining them, that is, by relaxing them; for upon mounting, the Extensors and Flexors bear a greater Share of Action than upon a Plain, and we are oblig'd to trust alternately to both; so that every Step lays the whole Stress upon one Set only; whereas in Walking on a Plain, each bear their Share together; or at least so soon as the Body is brought to a true Center of Gravity, which is much sooner than is done on mounting up Hill.

BEFORE I take my Leave of this Subject, I shall make bold to take Notice of some other

other Exercises, which, if long continu'd, hurry on Diseases of great Moment; among these is *Standing*: They who are oblig'd to stand long, keep all their *Extensors* in a Tonick Motion; they fatigue them, and spend their Spirits in this Exercise: Nothing more debilitates than constant and immoderate Exercise; for as gentle strengthens, so immoderate weakens: The Difference is, that gentle Exercise draws Spirits to the Parts, opens the Passages, and exhales Humidities; but immoderate exhausts the Spirits, makes the Fibres too rigid, dries up the Passages, and unhinges the Spring of Action. Pressure straitens all the Vessels, where the Stress of it lies; and as Standing for a long Space hinders the free Passage of the Juices thro' them where the Muscles continue to press them, the Consequences of such a Pressure are *Varices*, where the Veins being hinder'd to re-circulate their Fluids, they must of Course swell, and be distended, and often so much as to burst the inner Coat of them, and produce these Swellings, which are easily known, because, upon viewing the Legs, we perceive the Veins vastly enlarg'd. This Posture is inconvenient for Persons troubled with Nephritick Pains, by which I would include all Pains in this Place, where is the Region of the Kidneys, which however, do widely differ in their Seat and Courses; however,

as every Pain seizing upon this Region, is made worse by Standing, I venture at present, to give them this Denomination; For, in a *Lumbago* or rheumatick Pain on the Muscles of the Back, where, if they bend themselves with their Heads forward, they cannot raise themselves again without vehement Pain. *Standing* keeps those Muscles, where the Humours are deposited, in a Tonick Motion; and as any Posture obstinately continu'd, gives Trouble, it must, by that, serve as a *Stimulus*, to invite a further Flux of Humours thither, and may at last introduce an Inflammation and an Abscess. It is then a dangerous Posture in inflam'd or ulcerated Kidneys, because it invites a Flux of Humours, and may endanger a Gangrene; it presses upon the Kidneys, and retards the Circulation there; And as for Ulcers there, our Business is to promote a gentle Flux of Matter, so as to cleanse the Part of its abundant Filth; but yet not to invite a fresh Flux of Matter every Day, as would infallibly happen by this Posture: We see People in the *Whites*, by Standing much, become wasted with them, because a perpendicular Posture is, of all others, the most difficult for Circulation; because, from the Nature of Gravity and Projection, the same Impulse that will carry the Blood upwards to a certain Length, would carry it four times that Length, in a Vessel.

a Vessel situated, and protracted, at an Angle of forty-five Degrees from the Point of Impulse; by which Mechanism, it follows, that the Juices in the lower Parts will be retarded greatly in their Course upwards, and the Consequence of this Retardation in the Womb, will be a filling the Vessels, a Distention of them, and an opening therefore of their Mouths; and lastly, an Afflux of Matter suitable to the Degree of Stagnation: So that it is plain, how prejudicial Standing must be to Women, whose Womb is a soft and membranous Organ, liable to yield upon every small Pressure, and more subject to receive Influxes than any other Part. Nor is this Posture convenient for them who are troubled with the Stone, for it lays the whole Stress of the Burden upon the *Pelvis*, and may probably inflame the Kidneys thereby; for if it be large, its Weight lies wholly upon the lower Part of it, which by no means favours its Exit: Since that Posture is reserv'd for the Sides, they who are troubled with such Gravel as will pass, should of all other Postures, chuse lying on their Sides; this Situation places the Mouths of the Ureters downwards, and favours its Descent out of the Kidneys; after which, Walking drives it into the Bladder. Whether a Weakness of the Back, which most Women are subject to, depends upon the Muscles, that are
loaden

loaden with Humours deposited upon them, or upon the Nerves that are relaxed, Standing is inconvenient for either; for in both Cases, it still invites a further Influx, and quite destroys the Tone of them: No Complaint is more common than this; I am oblig'd, say they, to stand much, and have thereby weaken'd my self so greatly, that I can hardly now move myself. This Case seems to contradict what we have said above, on Exercise, where it is made a Maxim, that Exercise strengthens the relax'd Fibres; but then it ought to be consider'd that, *ceteris paribus*, that holds true only in People subject to Defluxions upon every slight Occasion; the Cause of them then must be avoided, or prevented before. Nor is this Posture proper for such as have Ulcers in their Legs, for the Reasons already mention'd, namely, they being plac'd in an erect Position, and the Salts resting about the Ulcer irritating the Fibres, a Stagnation and an Influx of Humours must necessarily ensue, and the Ulcer will thereupon be hard to cure: In Ulcers, the Indications are to cleanse the Sores from their rotten Fibres, to make them discharge their abounding Moisture, and to dry them; but if the Humours take a Bent to the Ulcer, and this Posture cannot fail of leaving them there, how will it be possible ever to discharge those Inundations daily

encourag'd by the Posture, and consequently the last Intention can never be answer'd; that is, the Ulcer will never be heal'd, till the Patient is at Leisure enough to place his Leg in an horizontal Situation; which the Surgeons find by daily Experience to be true. Nor is this Posture proper to weak Stomachs; not only because the Stomach in this Posture hangs, but is propp'd by a sitting one, as *Ramazzini* has it, but moreover, because by this Posture a relax'd Stomach soon lets go its Hold of the Vic-tuals plac'd in it; it is not capable of bearing the Weight thrown into it, they therefore slip out at the *Pylorus* undigested; the Tincture is not extracted, nor fitted to enter the Lacteals, so that it passes down in Stools, and they waste for want of Nourishment: This is so agreeable to Truth, that they who have any Relicks in their Stomachs which they want to be rid of, will, by Standing, find the Load to vanish. Nor is it proper for such as have any Disorder in their Bladders, because if the Urine is promoted by this Posture, as it certainly is, the Bladder lying with its Neck inverted will feel the Load, the Salts by their Stimulation will continually twitch the Mem-branes to Excretion, and the *Detrusors* Force added to, or encreased by, this Sting, will weaken the *Sphincter*; so that the least Quantity of Water will stimulate, and it will

will give Persons at last an Incontinency of Urine. To conclude, *Standing* loads the Head and Breast with Humours, and it prejudices the Legs and Bladder; because if Humours don't circulate in the lower Parts, the Legs will swell, and the Bladder will be weaken'd from the Weight that always lies upon the *Sphincter*; the Blood not circulating in the lower Parts, the upper will be loaden, and therefore the Head will be oppress'd, and such will be troubled with *Vertigo's*; and the Lungs will be also crouded with Blood, and consequently *Asthma's* will ensue: In short, an unequal Circulation must be avoided, which this Pressure certainly introduces.



CH A P. IV.

Of Sleep and Watching.

GOD has fram'd us so wonderfully, that Vicissitude is useful for Mankind; we sleep to repair the Expences of the Day, and we watch to do the Duty of Life: To watch always would be playing the Extravagant, and turn us into Bankrupts; and to waste our Life in Slumbers, would destroy the End for which

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we were made: We should observe a just *Medium* in Sleep and Watching, if we design to continue in Health: Altho' the Day was originally ordain'd for Watching, and the Night for Sleep, yet it would be wrong to indulge or labour as these approach; and to cease from Exercise as soon as Night comes, or to labour while Day lasts; besides, if Sleep were to be regulated by the Night or Day, we should always be changing the Scene, nor should we observe any Regularity. The Business of Sleep, is to refresh our wearied Limbs, to hoard up Spirits, to increase Perspiration, to warm our Vitals, to appease a disturb'd Mind, and to curb many Evacuations. When the Actions of the Day have overtoild us, and have so wasted our Spirits, that they cannot suffice to animate the Muscles for Motion; an universal Lassitude or Inability seizes us, we affect to sit or loll, and with great Unwillingness do we move, there are scarce Spirits enough left us for Circulation; but more especially in an erect Posture; and therefore it is we chuse that Position, where all our Limbs are born up by a soft stay; that is, we chuse to place our Limbs and Body in an horizontal Posture upon a Couch, in which the Blood returns with the greatest Ease; and if Nature observes her Course, in a small Time a temporary Lethargy and a Lethargy seize us; for we lose all

all our Senses, our Muscles move no more; we become insensible, because we forget our Calamities, and are so far unman'd as to have laid aside Reason. Whilst we are under this Tranquility, the Heart, the Lungs, the Brain, the Stomach, and all the Glands, do their respective Offices, without the least Lett; the Spirits suffice to continue the Contraction and Dilatation of the Heart, and it thereby sends the Blood forwards into all the Arteries, even the minutest, and forces its Return equally: Digestion goes forward as usual, and if we believe *Sanctorius*, better than when awake; for, to digest well, is to have our Victuals well prepar'd, well diluted, regularly press'd by the Muscles of the Abdomen, and turn'd into Chyle, whose Principles should be duly blended, by being well prepar'd, I mean well chew'd; as we see our Cooks chop their Meat very small, when they design it shall be soon made into Soup: By this previous Preparation, the Water, being heated, sooner extracts the Tincture from the Victuals, and the Cookery goes forward apace: So it happens with us, that without this necessary Labour, the Victuals being often very coarse and tough, are sent out of the Stomach into the Intestines without being touch'd, no Tincture is drawn out of them, either by the Assistance of the *Saliva*, the Ferment of the Stomach, the Bile, the pan-

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creatick Juice, the Pressure of the abdominal Muscles, or the Warmth; they descend thro' the *Anus*, and give no Nourishment: Now in Sleep, nothing is wanting by which Digestion may be perform'd, all is the same, saving that the Heat of our Stomach is augmented, which adds Force to the digestive Power; Watching indeed better forwards the Descent of our Victuals, because we generally move whilst we are awake, and Motion promotes a Stool, as has been observ'd above; but in Sleep the Digestion is least disturb'd: In Sleep, Perspiration is observ'd to be double; but as one Evacuation encreases, another diminishes; therefore the sensible Evacuations must be lessen'd in Sleep. However, Perspiration is of that Moment to the Health of Mankind, that the least Diminution of it, brings on very dangerous Diseases, Witness such as, after Exercise, sit with their Necks or Breasts expos'd to a Chink; and more particularly, if there is a Fire in the Chamber, the Pores of the Body being open'd by the Plenty of Steams flowing thro' the Skin, and the Air within the Room being rarefied, and consequently lighter than the external, that of course rushes in with Violence, strikes the Pores, and contracts them by its swift Motion, and its Coldness; how small soever this Stoppage is, some Mens Juices are so ill habited, as to fall into dangerous Coughs,
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ending in Consumptions, or into fatal Fevers thereby; so small a Stream as enters, strikes as mortal a Wound as a Cannon Ball. I could enumerate many of my Acquaintances, seemingly of robust Constitutions, who have fallen under so trifling a Cause: If so small a Mistake proves often fatal, with how great Imprudence do such Men act, who, upon Dancing, or strong Exercise, were they have greatly heated themselves, do venture immediately into a very cool Air? They run the Risque of having their whole Pores clos'd up at once, and even bid fair to have their Blood turn'd into a Jelly in a Moment, as we see some Persons who are overheated by coveting and drinking cool Liquors, fall into Inflammations of their Stomachs or low Fevers, which are both very difficult of Cure: As in the latter Case, thirst is by no Means to be quench'd, so in the former, the short-liv'd Pleasure of the cool Air, is by no Means to be indulg'd: their Stay ought to be encouraged till their Heat is gone, and till their Pulse is return'd to its natural Order: 'Tis true, some Mens Perspiration is so vigorous, and their Pores so rigid, as not to suffer by such a Mistake; but who is he so knowing, as to be sure he is in a proper Condition to expose himself after so violent Exercise? We are not always alike dispos'd, and Security or excessive Caution, as the Lawyers say

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does no harm. In the Time of Sleep the Brain does not forget to perform its Office, because the Blood arrives at it as usual; and as then there is small Expence made of the Spirits, they are heap'd up ready to be detach'd upon Waking, on their respective Errands; the *Pump is prim'd* whilst we Sleep, and is ready to be *drawn* to supply every occasion of the Day; Nature's Provision is very short, she lays up but for a while; and they who are lavish, must be in want e'er Night; but they who are Misers, and make no use of the Riches they have in Store, are like those who have good Horses and don't ride them; we must in short neither waste nor disuse them; they are of infinite Value to Mankind; because without the Aid of our Spirits, we can neither move nor live: In Diseases their Expence is always carefully regarded and supply'd; for whatever other Indications arise, the *Conservative* is surely one, which is the Foundation for the Pearl Juleps so often prescrib'd, for Broths, Gruels, Soups, and all the Tribe of Restoratives; and as Sleep is the main Study of the Physician, when Spirits are wanted, this brings Opiates so often in Play; not that Opiates help primarily to breed Spirits, but because Sleep follows their Use, the Limbs are laid at Ease, all Actions ceases, Perspiration encourag'd, the Assistance given from the

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Shop or Kitchen for the Generation of them, has its full Aim, the Spirits are separated and laid up in Store in the Brain thereby, and are not spent in Tossing or Restlessness, their Motion is calm'd, and Nature goes on in a stated Road; wherefore Opiates are like a general Form, they are almost applicable to all Things and Occasions; so that the Good they do, is not by supplying, but by hindring the Expence of Spirits; the Administration of them in these Cases resembles a negative Thrift, as it hinders Patients from lavishing their small Stores to ill Purposes.

ON the other Hand *Watching*, when immoderate, expends our Spirits, by the constant Motion us'd whilst we Watch; it makes the Blood and Juices acrimonious, insomuch, as it exhales the more ferous and watry Particles thro' the Pores and Kidneys, and leaves the Salts in Clusters within us; it therefore inflames our Juices, because Salts will play their Part wherever they are; but Irritations are a Consequence necessarily ensuing their Existence; wherefore the Fibres will ever and anon be twich'd and vibrated, the Juices will be hurried forward, and warm Disorders will succeed such a Condition, and at first the Blood will be left sizy and inflammatory, and genuine Inflammations will be generated; but if the Watchings become obstinate, the Spirits will

will be so exhausted, that cold Diseases will be introduc'd: The Blood's Motion is regulated by the Quantity of Spirits; if they are few, it will be sluggish, and we see it common for sickly People, who sleep little, but are oblig'd to rise often and sit up, to have swell'd Legs; but if we observe a golden Mediocrity, the Spirits, bred whilst we sleep, mantle and move briskly, we become chearful, the Blood is carry'd with a decent haste to all the Extremities, the Secretions are favour'd, our Nourishment is justly distributed to every Channel the narrowest that can be imagin'd, Perspiration is kept on Foot, and Stools are promoted; that the Circulation is promoted thereby, appears by the Warmth of the Extremities, for Blood makes Warmth: That it helps this Motion, is affirm'd by *Sanctorius*, and his Commentator *Lister*; and the Reason is, because, whilst we watch, the Motion of the Spirits is more free, they are then dispers'd thro' the Channels like open Sluices, which whilst we slept, were hoarded up in the Brain; but where 'tis immoderate, they are expended: And if we continue this irregular Course for some Time, we play the Spiders Game and spin out our own Ruin.

¶ We see then of what Consequence Sleep and Watching are to Mankind, it is of great Moment to know how to regulate them, so

as to preserve Health, or to help to restore it when lost; and as Rules cannot be given concerning them, without due Regard to the Constitutions of the Parties, we shall give an Eye to them in particular.

SLEEP therefore, and Watching being view'd in the Light I have hitherto plac'd them, it appears that their Duration ought to be vary'd as the Juices differ; and consequently it follows, that the phlegmatick and cold People, whose Juices are gross and move slowly, shou'd sleep less than eight Hours, because the Progressive Motion is regulated by the Circulation of the Spirits, but in Sleep that is slower; and therefore by Sleep, such Persons wou'd become more phlegmatick and drowzy, and be in danger of dwindling into a Lithargy; but on the contrary, they whose Blood is very active and fiery, ought to indulge more Rest, that by it the Blood's Motion being retarded, they may grow cooler, for *per nimium Somnum interiora & exteriora frigescent, humores impinguntur, redduntur imperspirabiles, & corpora ponderosiora fiunt*, says *Sanctorius*. This methinks is an easy Regulation; if we mind Concoction, Sleep shou'd be indulg'd till it is finish'd; if the State of Blood, Persons whose Pulses are quick, whose Blood is hot, whose Water is red, and whose Thrift is extraordinary, shou'd indulge above eight Hours in Sleep; but

but they whose Pulse is slow, whose Temperament is cool, whose Water is pale with a white thick Sediment, and whose Thrift is little, shou'd sleep less than seven Hours, and shou'd Exercise stoutly to conquer this gross and sluggish State; and in order to sleep soundly, which is the Business of the Night, we must not go to Bed fasting, where there is an Appetite, for this will occasion an Uneasiness, and indeed give us Pain in our Stomachs; the Ferment grows sharp and twinges us so sensibly, that it awakens us often: This is so evident in Persons whose Stomachs have too eager a Ferment, that nothing makes them pass their Nights more restless than going to Bed supperless, and, in Proportion to their regular Appetites, they ought to indulge in eating and drinking; Sleep will digest what they take, if they manage the other Non-naturals as they ought. Those Ructus, whose Inflation and other Disorders of the Stomach are banish'd by sound Sleeps, * *Qui postridie cibos eructant*, says Hippocrates, *Et quibus præcordia nimium cibis non concoctis attolluntur, eis longior somnus confert*; and Sanctorius tells us very justly. † *A Cibo somnus, a somnococtio, a coctione utilis*

* They who belch up their Viſuals next Day, and whose Bowels, to wit, are lited up with unconcocted Viſuals, long Sleep is convenient for them.

† After Viſuals, Sleep; after Sleep, comes Concoction; and upon Concoction follows an useful Perspiration.

perspiratio. From all which it may well be concluded, that Eating and Drinking in Moderation, by appeasing an uneasy Craving and Sensation of the Stomach give that Part Relief; and as in Sleep, if regular and undisturb'd by other Accidents, the Viſuals are eaſieſt digeſted, Want of Reſt, thoſe *Rutts*, that Wind, thoſe Crudities Dr. *Cheyne* complains of, cannot be the Reſult of a moderate and whoſome Supper: Indeed if *crazy Carcaſes* will devour all that is ſet before them, if they will follow the Dictates of a deprav'd Appetite, and throw down three Meals at once, they ſuffer according to their Deſerts, for whoſe Stomachs can diſſolve, what a Jack-Boot won't hold?

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noſcenda eſt menſura tuæ.*

It is now high Time to deſcend to ſome Particulars where Sleep and Watching are proper. And in the firſt Place, nothing more recruits the Decay of Spirits, than ſufficient Sleep; 'tis hardly poſſible that ſick People, how weak ſoever, ſhou'd forbear Action in the Time of Watching, and therefore it is, that reſtleſs Nights conſume our Strength, whereas Sleep and gentle Slumbers reſreſh and give Vigour; whether it acts in a negative Manner only, by ſparing the few we have, and not conſuming them,

them, or positively by digesting the Nourishment we take, is hardly worth mentioning, because it certainly doth both; the Inaction in Sleep, is managing the small Stores we enjoy, and Digestion is hoarding up more Treasure; wherefore Sleep in Fevers, is a desirable and welcome Guest. Since the Days of *Hippocrates*, we are assur'd, that nothing better promotes a *Crisis* than sweet Slumbers; they both denote a calm and regular Circulation, and do hourly serve also to introduce it: Nothing is more cry'd up, by the earliest Promoters of the Profession, in Fevers, than moderate Sleep; whilst the Blood and Juices are hurried and toss'd furiously about in the Vessels, and our Spirits are on Fire, as we may say, the Patients feel a Thousand Pangs, from the Fulness of the Vessels, from the bad Qualities of the Juices, and from the deprav'd Motion of the Fluids: I have no occasion to enter into a *Detail* of the various Symptoms produc'd by these Faults of the Fluids, but as Sleep allays the Motion, if duly continu'd, the Blood will thereby be dispos'd at last to grow cooler, and deposite a regular and laudable Sediment, because when the Heat abates, the Sediment drops, if other Circumstances lit; as we see, if Urine, which has dropt a Sediment, be plac'd upon the Fire, the Heat blends the Sediment with the Urine, and makes it dis-

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appear; so in our Blood, while the Heat continues violent, no Sediment usually appears in our Urine; but as soon as the excessive Heat abates, and the Motion of the Blood is calmer, the Water throws down a Settling: Now, as Sleep calms the Motion, and abates the Heat, if duly carried on, so it contributes to make our Water concocted: And how many *Encomiums* does *Hippocrates* give of Sleep, in Fevers? * Upon long Watchings, a short, interrupted, comatous Sleep, encreasing the Disease, is dangerous; but if uninterrupted, continu'd, and taking away Pains, &c. 'tis an excellent Sign. 'Tis the worst of Signs, if Patients neither sleep by Day nor Night, for it denotes continual Pain, or is a Sign of a Raving about to ensue. They who are likely to escape from a Disease, breathe easily, are without Pain, sleep a-Nights, &c. Nothing is so terrible as constant Watching. These, with many other memorable Expressions, *Hippocrates* pronounces on Sleep and Watching. So that if Sleep does not come on of its own Accord, 'tis the Physician's Business to pro-

* A longis vigiliis somnus brevis, interruptus, comatosus, morbum exasperans, malus; at non interruptus, diu continuatus, tollens dolores, &c. Optimus. Pessimum est si neque noctu neque interdiu dormiat, nam aut ob dolorem vigilia adest, aut delirii affuturi hæc nota est. Qui ex morbis evasuri sunt, facile spirant, dolore vacant, noctu dormiunt, aliaque securissima Signa habent. Nil tam pestiferum, quam molesta vigilia.

more it at a proper Season, by Emulsions of the cold and white Poppy-seeds, or even by Draughts with *Meconium* or *Laudanum*, observing such due Cautions, as I am not at leisure to take Notice of at present.

IN *Diarrhaeas*, Sleep has a great and good Effect, it curbs them; for as the Business of Perspiration is allotted for the Night, and in Sleep that Work goes on twice as fast, as when we Watch, it follows, that great share of those Humours are diverted from their Bent towards the Intestines, and are then carried through another Flood-gate. Were Perspiration not equal to the Superfluities that run off by the Glands of the Intestines, yet Sleep would serve the Turn, because any Diversion whatever will turn the Scales, if it continues steady and firm; but more especially, if we level against the inviting Cause, I mean against *Irritation*; for then the Glands are at Ease from the twittings of the acrimonious Humours lodging there, and pricking their Orifices, and excessively vibrating them, so that the Juices are secreted in Proportion to this uneasy Sensation; wherefore, by allaying *this*, we prevent in a great measure, the Efflux of *those*; whereas, if we do not only smooth this Uneasiness, but also call off share of those Humours invited thither by it, we accustom Nature to divide her Spoils, she finds another Port to escape it, and the Effects in Time will cease;

cease; the lying close, and the Softness, besides the Warmth of the Bed, serve instead of an Irritation at the Pores, for it is matter of Experience, that such as spend too much Time in Bed, become thereby effeminate and enervated; the Warmth of the Place softens the Skin, and in process of Time, the whole System of the Fibres; now the softer our Fibres become, the easier they yield to any Pressure incumbent on them; they resist the Circulation therefore less, and the Juices will run thither, where they find the least Resistance to Motion; and as this Warmth relaxes the Skin, the Pores therefore will receive a larger Proportion of Juices, and by Consequence will throw off a greater Quantity of *Materia perspirabilis* thereby. What other Foundation of acting have these emollient *Fotus* apply'd to the Hypochondres or Soles of phrenitick People, than that they soften those Parts, make them give a freer Admission to the circulating Juices, and cause them to run with less violence to the Head and upper Parts. There is no difference between the Blood-Vessels, and other Syphons, or Canals; and, as in Hydrostatical Cases, if we design to turn off a Quantity of Water, we open another Channel, or widen another already made, in order to receive a greater Proportion; so it is with our Vessels: And as it happens in filling *Thermometers*, that the Air
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being rarefied, makes Liquor ascend into the Tube, contrary to its natural Bent; so Warmth, by which any Part is relaxed, causes the Liquors contain'd in the Vessels, to be specifically lighter, than the Remainder not heated in this Manner; and the heavier, of Course, rush in with Ease, and fill them. This is one of the Methods us'd in Revulsions, by it we subtract a Quantity, which wou'd have otherwise, by Reason of a Stimulation some way rais'd in the Part griev'd, run into the Brain or Lungs; and as in the Case mention'd, the Warmth of the Covers we lie under, does both relax or widen the Fibres of the Skin, and also rarefies the Fluids circulating through the whole Tract of the Skin, it does of Course make way for a more plentiful Reception of Juices in them; but where there is Plenty of them, there will be a greater Secretion, and consequently the lower Parts will be depriv'd of their Supplies, and thus regular Sleep curbs *Diarrhæa's*.

MUCH in the like manner Sleep conduces in Bloody Fluxes; in them the Irritation is vastly greater, than in common Fluxes; because Fluxes continu'd for any time, do generally terminate in these: 'Tis a sure Sign the Vessels are grown larger, when they throw off Blood instead of Humours; and as excessive Pains in the Belly do attend these Fluxes, either the Humours must
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be sharper than in common Fluxes, or the Fibres must have suffer'd some Damage ; and surely both these happen : For as the watry Parts are exhausted, the Salts grow more active and pointed, they pierce, cut, and divide the Glands, they hurry them into Inflammation and Abscesses ; and that this is the present Case, we need only view their Stools, and consider what has preceded ; as to *this* we feel their Pulse and perceive it quick and strong ; we touch their Skin, and that burns ; these two Signs only denote fairly that they are feverish ; but moreover their Thirst, their Inappetence, and their Restlessness, betray a Fever ; precedes these Symptoms, it shews that the Fever is Symptomatical, and, by Consequence, that it is a Sign of an Inflammation of the Bowels ; as to *that*, after this Farce is over, another more dismal succeeds ; *Matter* variously colour'd, and Blood, are thrown off by Stool ; that is, this *Matter* is the Consequence of the Impostume broken ; and the Blood, of the Breach of opening of a Blood-Vessel, from the acrimonious and caustick Quality of the Juices : If the Pain be excessive, and the slow Fever, succeeding the Abscess, be obstinate, Sleep of Course will be banish'd ; these two join'd together will put the Blood into hurry, and the whole System of the Fibres into excessive *Tremors* and Vibrations ; where-
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upon the Spirits cannot move with that Tranquillity requir'd for Sleep; the Motion and Quality of the Humours must be abated and corrected, before we can expect this desirable End; wherefore, if Dysenterick Persons fall naturally into Slumbers, it denotes that Nature has by some Means triumph'd over these Faults; or however, as Sleep dulls the Irritation, it will of Course lessen the number of Stools, and this Advantage is no small one. All Blood lying upon the Mouths of the Vessels, congeals and stops up the Orifice, from whence it flows; and if Perspiration go forward, as has already been observ'd, it does in quiet Sleep, there will be room enough to Administer proper Remedies to compleat a Cure; if any Part be indulg'd in Ease, the Spirits being diffus'd from that Course, run lazily that way; this is every Day seen in Sluggards, they lose their Limbs for Want of using them; which would grow as much the stronger for rough Treatment, as the Walnut-Tree grows the better for being beaten; so that in the main, Sleep, however it happens, helps to put a stop to these Fluxes of Blood. The large Quantities of *Opium* we allot for *Dysenteries*, shew the eager Desire we have for Sleep; there is not any Disease requires more of it than this, nor are its Consequences so much dreaded here, as in other Cases; the Irritation being
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being vastly great, demands a strong Stupifier; for the Quantity of any Remedy must ever be proportion'd to the Force of the Cause: This Irritation must be treated, as our Physicians treat their Mad Patients, it must be bound in Chains, it must at all Hazards be benumb'd; for as the bloody Stools are Drains of that Liquor, which is the Source of Life, we must run any equal, if not superior, Risque, to keep it within the Vessels; and as in *Cholera's*, there is a vast *Stimulus* upon the whole Canal of the Intestines, from the very *Gula* to the *Anus*, Sleep, which is not an effect of Weakness, but of a Conquest over the Disease, is a great Argument of Recovery; and as I have chanc'd to Name this difference of Sleep, it may not be amiss to give some short distinguishing Signs of the different Causes of Sleep: Sleep which attends a Victory over the Disease, is long and uninterrupted, the Body is plac'd in a curv'd Position, they breathe easily, their Pulse grows stronger, they shut their Eyes compleatly, and their Extremities keep warm; but that Sleep which is preternatural, is short and uneasy, you may see the White of their Eyes, they generally lie on their Backs, they breathe short, and their Pulse is languid; in this Case also they lose their Hearing, and feel nothing: The first Sleep is natural, and happens in the following Manner;

ner ; Nature is pleas'd with Vicissitude, and therefore with Watching and Sleep ; and as an elastick Body, recoils and returns to the Point from whence it was let off, and continues this Motion for a considerable Time, so do we return from Sleep to Watching, and *vice versa*, during the whole Course of our Life ; *this* Sleep is therefore call'd Natural, and is useful, but *that* which succeeds Diseases, and is an Effect of Weakness, is preternatural, and demonstrates Danger ; there is a wide difference betwixt the *Fatigue* and *Decay* ; *this* is a total Abolition of all our Functions, but *that* is only a Respite or a Retreat, in order to return with a greater Force ; in *Languors* and *Decays*, whatever Nourishment we take proves useless, and is a Load never digested ; but in *Fatigues*, the *Victuals* turns into Chyle, Blood, and Spirits, and we feel the good Effects next Day ; the Sleep accompanying *Decays*, flatters the By-standers into a belief of Safety, while there is no Fence against the least Inconvenience ; it resembles a Royalty without Guards, the first Attack from any Enemy throws them down : As in a Dysentery, so here, Opiates are ventur'd on to a large Dose, to sooth the *Stimulus*, and keep us easy ; but if Nature plays its Part, and disposes us to Rest, 'tis the greatest Happiness can be wish'd for and enjoy'd in the present Case.

SLEEP is a great Comfort to gouty Persons much afflicted with Pain, it lays them by to fallow ; the Spirits being exhausted and put into irregular Tumults by the excessive *Stimulus*, have then leisure to be recruited, and perhaps to throw off by Perspiration, or otherwise, the offending Matter ; for as the Humours cast off by double the Quantity of Steam in Sleep as while we Watch, those Sweats, which gouty Persons have upon their Toes and Feet, while they are asleep, are an Effect of the increas'd Perspiration ; but nothing more conduces to relieve them, then these Sweats ; while they are in extream Pain, their Feet feel parch'd and dry, the Blood is in a Fever, they are thirsty, their Water is red and without Sediment, their Pulse is high and quick, they have an Aversion for Victuals, and they are perpetually restless ; but as soon as Sleep can be had, the Feet begin to grow moist, the Pain begins to abate, the Swelling appears more outwardly, and lastly goes off ; as it fares with Persons troubled with a Defluxion of Humours on the Teeth, while they are in Pain, while the Humours are extravas'd on the Membranes, and twitch them inwardly, they are perpetually uneasy and restless ; but as soon as ever they change their Bent, and take their Course into the external Parts, which are much softer then the Membranous, and far less sensible

sensible also, they desert those tender Parts, are heap'd up gradually in the Cheeks, and puff them up to a considerable Size, and then the Patients begin to be at Ease, by this salutary Translation from the inward to the outward Parts.

SLEEP in *Phrenzies* and all *Deliria* is a main Intention Physicians aim at, they are even oblig'd to administer frequent Doses of *Opium* to procure it, observing all the necessary Cautions in the Exhibition of it; but if by some lucky Chance, the Patients happen spontaneously to fall asleep, all those Spectres and jumbled *Idea's* are lull'd and are appeas'd in Proportion to the Duration of it; so that it is very usual to part with Patients under the most amazing Distracti-on, and to find them next Visit, by the Assistance of a sound Sleep perfectly restor'd to their Intellects: Whilst the Fury of the Spirits continues, Sleep is utterly banish'd; therefore Sleep is the first Notice we have of an Abatement of that Hurry; and however this Commotion chances to be diminish'd, Sleep finishes the Work: If we enquire into the suspension of Motion, we shall find, that if any Sluice be open'd elsewhere, the Swiftmess of Humours towards the Head immediately lessens: Suppose a Person in the Small-pox under a high *Delirium* upon a suppress'd Salivation; if the Kidneys chance to secrete a large Quantity of Urine, which

is look'd upon as a just Supply for an insufficient Spitting, the Ravings will gradually vanish; because when by an Irritation of the Kidney-Glands, the Secretion increases, and the Humours are drain'd thro' that Passage; they change their Course, the Brain settles, its Vessels being not so turgid as formerly, the Spirits move calmly, natural Slumbers ensue, and the Ravings cease; and indeed, in any Emotion whatever, in or out of Fevers, Discharges made by Nature or Art, contribute greatly to bring the Delirious to their Senses, not only as they shift the Motion into another Channel, but also as they diminish the Fulness of the Vessels; nor ought these Evacuations to be indiscriminately made: It is not a Matter of Indifference whether we Bleed or Blister; there is this Harmony indeed among the Gentlemen of the Faculty, that all agree Madness are, like blown Deer, to be run down the shortest Way; but then taking off a Quantity only, will not answer the End of changing the Bent of Humours; nor will this change the Quality of the Juices; nor lastly will Alteration answer the End of Depletion: But moreover, Discharges of every kind don't tally with the Condition of the Humour to be discharg'd; for whatever some Authors may affirm, Blistering is the most improper Revulsive in high Fevers, that can be advis'd; the *Deliria* are
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often observ'd to be heighten'd thereby, the Tendons jump and start after their Application, they grow insatiably thirsty, and the first begins the Tragedy; but the fifth or sixth discovers the *Catastrophe*. It cannot be deny'd that even in the highest Fevers, one Blister may sometimes be necessary for the following Reasons; namely, as in such Fevers the Vessels are excessively fill'd; it often happens, that by reason of the loss of Elasticity at the Capillaries, the Blood will stand still there; so that whilst the Fluids elsewhere run forward too briskly, here they stagnate: This *Motion* we will call, if you please, *Interpolated*; and as in this single Circumstance, the Indications run counter to each other, to wit, the accelerated Motion of the Blood, requires all the diluting, cooling, and clogging Medicines; but the Stagnation would thereby be increas'd, and therefore it indicates Aperients only, so one Blister wou'd in this Case answer the Intention, by opening the Passage; but it would be unlawful to conclude that more were necessary, since one is; because it is the Business of a Physician, to have a strict Eye to the Quantity of each Cause, and as that exceeds, or fails, accordingly to diminish, or add. In like manner it happens in some petechial and pestilential Fevers, where we observe their Pulses to be very obscure, and yet they are parch'd up with

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Heat; this is the oddest State of Fevers we meet with, the smallness, and even obscurity of the Pulse denote a sparing Influx of animal Spirits into the Cardiac Nerves, and also a Compression of the Mass of Blood bordering upon a Stagnation; upon which two Accounts, 'tis necessary to give the testaceous and volatile Medicines, and moreover, to apply Vesicatories over different Parts of the Body by turns; but as these warm Medicines themselves, by evaporating the watry Parts from the Blood, do contribute to thicken it, unless they be administered and apply'd with utmost Caution, so we are also oblig'd, in order to allay the excessive Warmth of the Juices, to give diluting and cooling Liquors with a plentiful Hand, moderately Warm: They also serve to envelope those dangerous Salts which appear to be caustick, on certain Occasions, and to wash them out of the Blood; or however, to bring them down to the Weakness of natural Acids: On this Occasion, it is evident, how contrary are the Intentions to be pursu'd, and yet this Strait is no new Accident with Physicians, and must be manag'd with a steady Judgment. It cannot be expected, but that, in such dismal Cases, there is the utmost Danger of Life; where Causes are contrary to each other, and yet subsist together in one, and the same Mass, as plainly appears in the two Cases here mention'd,

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we are to postpone on Intention, and leave it to Chance, and a fatal or dubious Prognostick; if the Humours are duly discharg'd and alter'd, Sleep will ensue, and bring those huddled and chimerical *Ideas* to Order.

SLEEP in pleuritick Fevers and Pleurifies, has a good Effect; in the former it helps to digest the Matter of the Fever, which being prior to the Pain, is mainly to be regarded; and in the latter it lulls the Anguish, and thereby prevents a Hurry of the Humours as well as an Expence of Spirits we should be at, if we watch'd; and it denotes an Abatement of Symptoms also, which, if violent, would not suffer us to take Rest: Wherefore, as Sleep is of certain Advantage to assuage Pain, it deserves Enquiry, whether we might not procure *it* by Opiates, which to answer justly, we must examine the Symptoms of each Disease; and therefore as the Pain of the Side in a pleuritick Fever is only symptomatical, if the Fever be in Danger of turning malignant, if Concoction be thereby impeded (as may be discern'd from the Inspection of the Urine) if previous Discharges have been duly made, and if the Humours are not too much impacted, we may venture to answer the urgent Indication; because Pain, if excessive, will countervail the best of Symptoms; let the Patient have the most promising Signs, but yet be excessively in Pain, it will mow
B b 3 down

down all our Expectations; and therefore altho' Opiates do more inspissate the Juices, and thereby render them subject to stick in our Capillaries, and by consequence make these Fluids, already too gross, more so, and more particularly those already sticking in the Part; yet because they sooth and assuage the Pain and Anguish, and give us respite to recover Strenght; they gain a happy Truce, till proper Applications and Remedies can be sufficiently us'd for the removal of the other prevailing Symptoms, which act in Opposition. And thus we may say of Pleurifies also; but they ought to be prudently manag'd.

IN Consumptions, where Coughs are troublesome, *Sleep* is wish'd for by the Patient, and endeavour'd for by his Physician; it generally happens that Sleep and the Cough keep Counterpace with each other; they who sleep well, cough little, and, *vice versa*, Coughing keeps consumptive People awake, and they complain of being spent, fatigu'd, and are sore about their Chests: Coughing is a strong Action of the expiratory Muscles, and when they are frequently exercis'd, no wonder they should complain of Lowness and Weakness, since the Expence of Spirits bears a Proportion with the Exercise; and the Soreness of the Breast depends also upon the Excess of Motion, by which the Fibres of the Muscles are stretch'd
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and strain'd beyond their ordinary Tone; for which Reason, the unctuous Medicines, which are also Aromatick or Purgent, so often made use of to anoint the Breast, are useful to allay this troublesome Soreness.

SLEEP is of Use in Faintings, and if wanted, should be procured; not that Opiates will agree with every *Syncope*, but because they who are subject to this Disorder, can bear no Expence of Spirits, and therefore Watching is forbid; but Sleep helps to recruit them, or however hoards them up so as to hinder their Expence, which too often hurries on Swoonings.

WHEREVER Persons are subject to Defluxions of any kind, Sleep, forc'd or natural, contributes to put a stop to them: If we should lay open the Nature of Defluxions, this Advantage would better appear; wherefore the original and first Causes of them arise variously, namely, from a Plenitude, a Thinness of Blood, or Pain, or too fierce a Circulation; and often from a Laxity of the Parts: Be these how they may, the immediate Cause is an excessive Rush of Humours towards the part affected. Now, altho' tis necessary to make use of Evacuati-
ons in proper Places, to discharge the Quantity, and to divert a Load from the Lungs or elsewhere, in which we must not be too sparing; because too gentle Discharges, by Physick especially, serve only to excite Com-
B b 4 motions

motions, but not to carry off the Cause, and do therefore more harm than if no Discharge had been made at all; we must then evacuate plentifully in Proportion to this Cause, before we think of the immediate one; so that like what is said of Nettles, if gently touch'd, they will sting you, but squeez'd, can do you no Harm; in like Manner these gentle Discharges do Harm in most Defluxions; but large ones effectually change the Motion. When these Preparations are made, if we fall asleep by Nature or Art, the Motion to the Part will abate; since Perspiration goes more forward in Sleep, this Bent will be chang'd by that alone, if it is not too vehement; and if it is, then Opiates, having a Faculty of arresting any precipitate Motion, duly administred, will abate and take off the continent Cause.

ON the other Hand, Sleep is prejudicial in many Constitutions and Cases, and particularly in such *Asthma's*, as have the common Denomination of *Pthificks*; these depend on a Heap of Phlegm bred in the Mass of Blood, and which by Degrees relax the Passages of the Lungs; but as too much indulging in Sleep brings on a Calm in the Blood's Motion, and that, a Defect of Perspiration, it follows, that by such an Indolence, the watry and phlegmatick Humours will be heap'd up in the Vessels, and will therefore add to a Disease, whose Origin is
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owing to Phlegm. Phlegm and watry Serum differ generally in Degrees only; for by Evaporation ever so gentle, this Serum becomes what we call Phlegm, since what was fluid becomes gross and solid, according to the Degree of Evaporation made use of.

SLEEP also in Palsies ought not to be indulg'd: I have already observ'd, that a Palsy and Apoplexy differ in Degrees, and in the Seat of the Disorder; for the latter is an Inundation on the Ventricles, on the cortical and medullar Part; but the former is less in Quantity, and seated at the Origin of the Nerves, that takes off Sense and Motion; but this leaves the Brain free, and only deprives us of Action; which by the way, shews plainly, that our Thoughts and Actions have different Seats; which is confirm'd by an encrease of the Palsy; where, as the Cause is augmented, it encroaches upon the Brain, and Paralyticks at last begin to lose the Faculty of Speech and Thought, and then they die with the Oppression of Humours; for when the Phlegm abounds in all the several Passages of the Brain, and is upon Dissection found glutinous, as has been observ'd in some convulsive Cases, the Motion of the ethereal Matter is arrested, and cannot follow the Command of the Soul; therefore the Office of this Organ being destroy'd, that of the Heart must fail of Course, and the Circulation can no longer subsist:

subsist: These being premis'd, it must be of disservice to encourage Paralyticks to loiter in Bed, for Sleep would here beget Sleep it would augment the Quantity of phlegmatick Humours, these would stop in the Brain, and oppress it daily more, and that Oppression would terminate in an Apoplexy.

NOR should Hydropicks indulge in Ease and Sleep; the Essence of a Dropsy is Water and Phlegm, which grow by Indolence; first the Perspiration is curb'd, and that adds a great deal of Water; then they grow thirsty, from a Change made in this Secretion, and heap up a great deal more Liquor than they can digest, and do therefore make less Water, because the Quantity undigested is gross and thick, and not well fitted for passing thro' the Kidneys. Thus do they insensibly wander from a Fault to Faults, and mount up to the last Round of the Ladder, from whence they must tumble. Now Sleep, when too much indulg'd, encreases the Essence of the Disease, and therefore is to be abated.

WHEN it is too much indulg'd, it brings on various other Disorders, namely *Lassitudes*; because it inviscates the Mass of Blood, and obstructs or compresses thereby the Muscles, and so brings them on, a *Heaviness* of the Head; because by arresting a Load of Blood and Juices deprav'd by Rest, it also relaxes the whole Passage of the Brain; and material Diseases are known by a Gravity,

vity, a Weight, a Load, or Oppression : A *Coldness*, because Cold is a Rest or Cessation from Motion, and the Juices by too much Sleep, are stopp'd in their Career ; the Spirits resting in the Brain, and not being so plentifully detatch'd from thence as whilst we Watch, at last a Coldness will ensue, more or less, according to the Degree of Sleep we have indulg'd in ; and as *Sanctorius* observes, that Lassitudes after Sleep are taken off by such things as encrease Perspiration, namely, by Fasting, Exercise, Watching, and Anger : * So it appears, that want of Motion in our Fluids is the Cause of all Disorders that arise from excessive Sleep ; and that some of our Non-naturals having a different Effect upon the Blood, must supply its Excess, as we have already observ'd on this Affair above. Having mention'd many of the Advantages and Inconveniences of Sleep, I shall proceed to its Opposite.

WATCHING is generally attended with Exercise ; and as Motion throws several *Remora's* in the Way to the Flowing off of the Humours, so Perspiration does not succeed so well whilst we Watch, as when we Sleep, where the quiet Posture suffers

* Lassitudo post somnum tollitur iis quæ facilem perspirationem reddunt ; hæc sunt, jejunium, exercitium vigilia & ira. *Aph.* 67. *De somno & vigil.*

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Nature to play her own Game; for the Particles of the Blood are comminuted by Motion and Watching, the Spirits are detach'd plentifully every where; they run into the Muscles and Nerves of all the Body; they run also more equally into every Part, and therefore do encrease every Secretion, in Proportion to the Orifices of the Ducts, so that the sensible Evacuations are also promoted whilst we Watch, more than in Sleep, and therefore Perspiration must lessen of course; it moves the Blood from the Center to the Circumference, and thus also prepares a Way for Humours thro' the Pores, which cou'd not find a Passage whilst we sleep, because it attenuates grosser Humours, and then they more readily steam off in *Effluvia*; so that it becomes as necessary for Nature as Sleep: The animal Functions are invigorated by it, because the Detaching of Spirits into the Muscles, is the Business of the Day, and Parts moderately exercis'd, grow stronger: But in a particular Manner, the Brain, being the Scene of Action whilst we Watch, it grows stronger by Exercise also; which if it were not made Use of, wou'd forget its Function. If it be immoderate, it weakens and makes the Body feel heavy, as *Sanctorius* observes; it weakens, because where the Spirits are spent, the Persons must feel weaker; and where a Heap of indigested Chyle loads the Vessels,

Vessels, they must feel heavy : And moreover, be it there shou'd not a Quantity of indigested Victuals load our Vessels, yet to Persons dispirited, any Quantity which their Spirits can't manage, is a Load. So that Watching immoderately, is a sure Method of draining the Spirits, and making the Fibres of the Brain dry and rigid ; it exasperates and acuates our Humours also, by evaporating the Serum thro' all Parts whatever, and leaving them more concentrated.

FROM all which, 'tis easy to see where Watchings conduce, or do Harm, in Diseases ; for as Sleep too much indulg'd, renders People dull and stupid, so Watching immoderately us'd, makes us delirious ; and therefore, in Diseases where Phlegm abounds, Watching is of good Service, because it moves and exagitates, and by Consequence attenuates the Juices ; wherefore, in a *Diabetes*, from a Tenuity of the Juices, it rarefies the Blood yet more, and increases the Disease. Watching, in old Men, is hard to be remedied ; old Age is a Disease itself, where the Humidities are drain'd, and the Solids are too rigid ; nothing can relieve either, without the Hazard of Drowning the Spirits ; for Relaxers and aqueous Medicines shou'd be made Use of for these Ends ; but they can't digest either ; and therefore such Watchings are dangerous.

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In Hiccups, Watchings augment the Disorder; it is a Convulsion, and depends upon a tumultuous Motion of the Spirits, which they raise and keep on Foot. 'Tis upon this Head, that *Tea* and *Coffee* prolong our Watchings, exhaust our Spirits, and are improper in convulsive Cases; because they have a Bitterness in them, and also some Astringency, which shews they contain a good deal of Salt in them of the alcalifate kind; and as these Salts do greatly attenuate the Fluids, and make them occupy a greater Space, so the gentle Stycticity contributes to straiten the Vessels, by which Mechanism, it will happen that the Fluids will run faster forward in the progressive Motion; wherefore, as Watching depends on a quick Passage of the Fluids thro' the Brain, and all its Siphons, these Liquors are us'd to keep us awake; but the immoderate use of them is highly prejudicial to all, and some Constitutions already too volatile, can hardly bear a very moderate Quantity; no Wonder than Ladies are so often thrown into Vapours by the use of these Liquors; they debauch in them, they devour large Doses of them, and sip at every Tea-Table; by which they evaporate their Spirits, instead of recruiting them; whereas, if a peculiar Constitution is not in Fault, a small and settled Quantity would not fail of being as good as the best and wholesomest Bitter

ter from the Shops: The best of Things may be abus'd, one Dish may do us good, but ten may destroy us; which is like what Mr. *Dryden* calls the old Law of Duelling, if one can't beat you, ten shall. Where Indigestions are frequent, and Winds blow us up, where our Stomachs are sour, and Phlegm sticks to the Walls of it, these Bitters taken soon upon our Victuals, serve to ferment them, and to wash off part of that gross Stuff sticking there; but if the Stomach is already too bitter, and its Contents too pungent, a draught of cold Water serves the Turn much better, and helps the Digestion readily. So that they who use those Liquors, should seriously consider their Circumstances.

SUCH as are naturally Watchful, should avoid Study at Night; Study puts the Brain and Spirits into a constant Agitation; it raises an impetuous Motion in them, and attracts, as we may say, the Bent of the Blood thither; and as Persons who have been toss'd at Sea, do feel a Rotation for some Days after, so in Study, the Spirits being put into a hurry, do not readily forget their Course, but will make the Nerves vibrate for a whole Night together; 'Tis usual upon this Occasion to be troubled with Headach's, from the same Reason; because that Fury is exercis'd on the Mem-

Membranes, which in Watching is spent in the Brain.

LONG Watchings in acute Cases, seldom fail of introducing Ravings; they are indeed but Branches of the same Cause; the same Impulse, which holds the Tubes of the Brain open and keeps us awake, being a little increas'd, causes us to think and speak inconnectedly; how nicely therefore is the Balance to be weigh'd between Sleep and Watching? Either of them are as unnatural as continual Day or Night wou'd be; it is impossible to avoid Sickness, if we don't observe an exact Measure squar'd to our peculiar Natures: This Proportion we are as much Masters of, if we will observe our selves, as we are Judges when we have eat enough, or as we are capable of knowing whether the Air is too sharp or too hot for us: They who fatigue much, require much Sleep to recruit their Losses; but on the contrary, lazy indolent People, who hoard up too many Spirits, may afford to sit later up: Hard Study makes the Fibres of the Brain too dry and tense, therefore hard Students shou'd indulge in Sleep longer, the Places they are educated in, commonly are careful of Surfeits, and the young Gentlemen, of taking too much Pains, so that their early Hours do them very little harm; they need not much Sleep either to digest their Meals or relax their Heads:
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Sickness and Health, &c. 385

They generally go to Bed by nine or ten a Clock, and sleep till five or six, that is, eight Hours; and the old Proverb is,

*Septem horas dormisse,
Sat est juvenique senique.*

*Seven Hours Sleep are enough for the
Young and the Aged.*



C H A P. V.

Of Evacuations and Suppressions.

THERE are many Discharges intended by Nature, and which, when they are *well perform'd*, keep the Ballance level between Sickness and Health; but whenever they are *check'd*, Diseases are usher'd in apace; or if ever they *exceed* their natural Measure, then immaterial Diseases immediately succeed. The principal of these are Perspiration, Urine, Stools, the *Menses*, the *Saliva*, the Seed, the *Lochia*, the Milk, Sweat, and the Piles, the Bile, and the Pancreatick Juice.

IF Perspiration be duly perform'd, the Blood parts with a Quantity of Steams that are excrementitious; the Parts exhal'd are partly Saline, partly Sulphureous, and part-

ly Watry ; and these, if the Blood be well constituted, wou'd add to the Quality of it ; but if the Blood be cacochymical, they wou'd add Parts disagreeable to the Juices, and make a Bastard Plenitude : We are so fram'd, that every secretory Duct must perform its Office, to make room for daily Supplies ; and if they act according to Nature, the specifick Qualities, Quantity, and Motion of our Fluids, are preserv'd, and our Solids are firm ; but if it exceeds in Quantity, then Diseases follow. Nothing is more common than to ascribe all Illnesses to this Head ; if our Heads ach, if we have the Colick, if we cough, 'tis from Cold ; and indeed so many Diseases take their Rise from it, that it would take up a Volume to enumerate them, and the *Modus* of their being introduc'd ; some few of which I shall descend to : Fevers are immediately produc'd from a stoppage of Perspiration, inasmuch as the Blood being Cachectical, an Addition of a large Quantity makes it ferment, and this Struggle is a Fever ; the morbid Particles being retain'd, encrease the Heat, and make the Urine high-colour'd, and the Pulse quick : Such a Struggle began, requires a longer or shorter Time for the Matter retain'd to ripen and digest ; which when done, the Urine drops a Sediment, and the Quickness of the Pulse abates, and these succeed a just abatement
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of the Heart. *Coughs* are occasion'd in the following manner ; the Matter retain'd fills the Vessels, and they, being incapable to circulate the Quantity, drop some thinner Parts into such Glands as are most susceptible of them, the Glands of the Lungs being most tender in some People, receive them ; so soon as they enter they stimulate and twitch the Membranous Part of the *Trachæa* to Coughing, and this is a sort of milking those Glands, by which they spew out large Quantities of Serum, and the Motion, if not timely diverted, is determin'd thither ; so that at last an Inflammation and an Abscess are hurried on ; that is, a Consumption is introduc'd, where they cough and spit ; where the Lungs are stuff'd, Tubercles are bred, inflam'd, and Ulcerated : From such slender and slighted Beginnings, this grievous Disorder carries off Thousands : The Air of this Island is moist and cold for the generality, and our Pores are always in danger of being obstructed, if not guarded against, with warm Cloaths or cold Bathing ; so that Coughs are plentifully introduc'd, more especially in Winter, as our Churches can sufficiently vouch for ; and out of Numbers thus seiz'd, few of them take Care enough of them, till they are almost dead of their Colds, as they call them ; that is, till their Lungs are truly inflamed, and till the

next Step is an Ulcer of them; which two last Scenes of Consumptions are not well understood by the common Practitioners, and consequently not well prescrib'd too: In these Degrees so many Intentions concur, not known to them, that many must Drop, who might have a good Chance for a better Fate. Nothing is more common, than for the cold Air to bring on Pleurifies and pleuritick Fevers, they are often Epidemical in Winter; the Coldness of the Air has an Effect upon the Solids, and contracts them, so that they can't throw off a determin'd Quantity of the *materia perspirabilis*; but also it has a severe Effect upon our Fluids, and particularly in the Lungs and adjacent Parts; no Pleurifies or Peripneumonies are more dangerous than those introduced from the severity of the Weather; because the Aire ntring the Lungs, coagulates the circulating Blood in that Part immediately, so that it stops there or thereabouts, and brings on these Diseases. *Lumbago's* or rheumatick Pains on the Back, are commonly introduc'd by Colds; the Part being expos'd for some time to the Air blowing cold upon it, is seiz'd with a Stiffness and Pain, the Blood is congeal'd there, and is distended by the Blood pushing itself forward, which Distension gives a troublesom Sensation or Pain. The commonest Symptoms from Cold, are a Weight

Weight on the Forehead, a Running at Nose, and a Drowfiness, occasion'd by the Retention of Matter, and its Stoppage somewhere about the Head, or at least a less free Circulation that way, by which it is thrown upon the Membranes, and upon the Glands of the Nostrils ; where, if it finds a Passage free enough, it runs off the Cold, and the Pores again open'd, the Fumes is subtracted. Swellings are often produc'd by this Stoppage, inasmuch as the Parts are loaden with a Quantity of Humours they cannot circulate on a sudden, and therefore they must inflate the Parts where they are deposited. Cold also has a bad Effect upon the *Lochia* ; nothing is more prejudicial to Women lying-in than Cold ; it constricts the Vessels and hardens them, so that the Blood which should run freely off, is retain'd ; hence succeeds an Inflammation, and a symptomatical Fever ensues, which proves fatal to most Women : Few reflect on the Nature of this Fever, and many treat it as an Original one ; whereas great Enquiry ought to be made about its, Origin ; if Cold has suppress'd these *Lochia*, if upon their Suppression, Pains seize upon the Uterus, and if a Fever ensues, this is evidently a Symptomatical Fever ; but if the *Lochia* flow freely, if no Pains infest the Uterus, and if the Suppression of them follow'd the Fever, then is it an Original Fever :

But as the Causes of these Fevers differ widely, so ought their Cures, which is not my Part to enquire into at present. Asthmatick Fits are often produc'd by Cold, and as soon as cold Weather comes in, they generally are stuff'd up, and breathe short; Frost particularly locks up the Phlegm within their Breasts; it congeals the *Serum*, and makes it stick close to the Glands of the Lungs, and the closer it is united to them, the greater Force they are oblig'd to make use of to expectorate it, which repeated Endeavours do often hurry on Inflammations, so common to Asthmaticks, and so fatal also to them; because they are partly to be treated with Medicines proper for the Inflammation, and partly with Antiasthmaticks, which run Counter to each other in their Intentions. It were easy to heap up a Catalogue of more Diseases arising from catching Cold; but in general, it may be observ'd, that when we receive no Damage from the cold Air, it is, because our Solids are equivalent to the Pressure and Coldness of it; but when its Qualities preponderate, so that our Fibres cannot resist by their elastick Force, but are too flexible and yield to it; then it must follow, that our Fluids, and indeed our Solids, every where are mov'd by it in any manner: What can follow this Cessation; but a Suppression of the greatest natural Evacuation, and all its Consequences?

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HOWEVER, Perspiration may also be increas'd above what Nature can bear, and then we must expect Weaknesses to ensue; this is the Case of woollen Shirts, which heat and dry our Bodies, and are by no means to be us'd in weak People; any Exercise whatever, which promotes this Evacuation to much, renders us weak: I know a Gentleman who upon hard Riding, us'd to fall into *Syncope's*; the excess of Motion threw off his *Perspirabile* and Spirits together. What Changes are not our Travellers subject to, who sail from *England* under the Line? They are seiz'd with Fevers, because a large part of the *Serum* is exhal'd, so that the Salts or Globules approach near to each other; the Fevers they have are generally Ardent, and if the Expendence of Perspiration is so great, as to exhale a good share of the Spirits, then it will be a dangerous Sort, where Dilution will become necessary, as well as Evacuation suitable to the Case. This Excess of Perspiration, often introduces Hypochondriac and Hysteric Cases, where they perpetually complain of Faintness, and a Want, or a Vacuity within them; 'tis possible such Persons have indulg'd themselves, or have kept themselves too warm, by drinking warm Liquors, or by heaping warm Cloaths upon them, and the least Excess overwhelms weakly People; their Fibres are either too

C c 4 elastick

elastick or too much relax'd, so that any exterior Cause puts them into Convulsions or Weaknesses. Moreover excessive Perspiration leaves the Blood sizy and Rheumatick, an easy Experiment proves this, since *Serum* plac'd in a Spoon over a gentle Heat turns presently into a Jelly, and we are in the next Disposition to rheumatisms; and Rheumatick Fevers from this Incrassation; but more surely, if upon such Heat, we immediately expose our selves to the Cold, for this is a double Cause; too much Sleep by encreasing Perspiration has this Effect; in like manner, too much Exercise will have the same Consequence; Excesses in those Non-naturals, which hasten this Evacuation forward, must be forborn: Hard Drinking does in a particular Manner excite a Fever in the Blood, and the Steams fly off thro' the Pores, in Proportion to the Motion thus accelerated; so that Drunkards seldom want Rheumatick and Sizy Blood; and moreover I have observ'd that such of them, as are always guttling and guzzling, have their *Serum* milky; the Reason of which seems to be, that they never give Time enough for the Chyle to be converted into *Serum*; to this End it is necessary it shou'd circulate frequently, and throw off by various Glands such Particles as are too gross and viscid to remain within the Blood-Vessels, so that such a *Serum* denotes
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an Indigestion, changeable into true *Sorum* by Chalybeates, Bitters, Pungents, volatile and fixt Salts, and a decent Forbearance from Supplies of more, till the former is digested: To feed so unmercifully as they do, is living as if they were to dye to morrow; if they eat out of Wantonness, they shou'd govern their Appetites by Reason; but if by the force of a Disease, let them apply for Help from an expert Physician.

If *Stools* go forward as they ought, Health is preserv'd, that is, by them the fibrous Parts of our Victuals are carried down, as well as the grosser which are not fit to pass thro' the Lacteals; and according to our Meals, ought they to be regulated: 'Tis not enough for healthy People to have one every third or fourth Day, tho' there are some Constitutions that never have above one in a Week; but such can never preserve themselves sound for any considerable Time; it is therefore Nature's Business to give a daily account of her Burden. Every Constitution is specifick in this Case, and it may give a Physician a tolerable handle of guessing at the Strength of each Person's Fibres by the Quantity and the Stay of the Excrements: The Conditions of a natural Stool, are, that they shou'd be of a good Colour; the Stools denote the Condition of the Bile, unless they are colour'd with Claret, Steel, Saffron, Cassia, Rhubarb, Cochineel, or some other

other colouring Ingredients; which, when Natural, is Yellowish; whatever other Colour they have they denote some fault in the Blood, which must be carefully regarded and remedied; their Consistence must be such, as neither to be too moist nor too gross; if they are too thin, the Chyle and Fluids run down, and they are robb'd of their Aliments; if too gross, they stick by the way, and endanger Colicks, and even Inflammations; they shou'd be proportion'd to what is taken, We will now descend to some Particulars on their Excesses and Deficiency's.

IF Stools are too numerous, the Body is necessarily depriv'd of Nourishment, and Strength decays; those therefore must of Course be wasted, and it is well if the Intestines themselves escape being eroded: If the whole of what we take, is distributed between the *Lacteals* and *Anus*, 'twere too much for this whole be sent downwards; all Supplies being cut off from the Blood, the Spirits must soon decay: I have often been amaz'd to see what number of Stools, and what large Quantities of Excrements Children will have, when their Lacteals are obstructed, and be wasted to Skeletons, and yet live on; 'tis amazing from what Source they derive those Spirits, when upon Dissection it has been found, that caseous Concretions have

have been bred in every Branch of the Lacteals, intirely stopping the Course of the Chyle, unless we grant what Dr. *Boerhaave* affirms, namely, that part of the Nourishment is lick'd up into the Liver, by some Branches of the *Porta*: * whether, says he, " any thing of these Liquors enters the " meseraic Veins, their Number, their Largeness, the diversity of the Liquor, and " their Flux into the *Porta*, as into an Artery, inform us. Besides their notable " Quantity, which perpetually enters the " Intestines, which is observ'd neither to " be receiv'd by the Lacteals, nor thrown " down by Stool; moreover, Comparative " Anatomy shewing there are no Lacteals " in Birds, and demonstrating that there " is a Passage from the Hollow of the Intestines into the meseraic Veins. " This is a Resumption of the antient Opinion indeed; but as it seems reasonable, there is Room to give it Credit. We don't scruple in Cases of Extravasation, to allow that the gaping Mouths of the Vessels, I mean the Veins, resorb this into the Blood: What other Method have we of explaining how

* An aliquod horum venas meseraicas ingrediatur, docet harum numerus, amplitudo, liquoris diversitas, fluor in venam, portarum, ut in arteriam. Tum notata copia liquorum, quæ intestina prepetuò intrat, quæ neque lacteis recipi neque alvo expelli observatur. Tum anatome comparativa, pennatis lactea negans, & aditum ex cavo intestinali in meseraicas demonstrans. *H. Boerhaave. p. 29, Institut.*

Matter in Consumptive Cases is taken up into the Veins again, and how it introduces those Fits of intermitting Fevers, we so regularly and constantly observe in the last Stages of a Consumption? They grow chill and shiver, they presently after grow hot and dry, and lastly they sweat profusely; their Water also betrays a Fever by its various Colours and Conditions, it is at first Red, and then at last throws down a brick-colour'd Sediment. Wherefore I readily believe that this Passage is the supply for Spirits in so universal an Obstruction of the Lacteals, as is Observ'd in Children.

If on the other Hand, the Excrements are hinder'd in their descent, many severe Disorders attend Patients: Colicks are an immediate Consequence of this Suppression; the *feces* being retain'd, ferment and huff up the Bowels, and these Winds, which are Steams from them, finding no passage downwards, distend, till the Excrements are duly provok'd with proper Evacuants, namely Catharticks or Glisters: 'Tis here as in other Retentions; if Persons suffer no Inconvenience by their being check'd, so long that Suppression is not unnatural; but if Winds, and Pain ensue, they ought to be promoted: It is hardly possible, but upon such a Suppression, the Stomach will fail of doing its Duty; for the Bile, which ought to mingle with our Victuals, and
help

help forward their Journey, will regurgitate into the Stomach, and cause Vomittings; and moreover, will destroy that Ferment residing there, and consequently will prejudice the Appetite; so that they will neither be very desirous to feed, nor capable to digest what they do force down; and as in Crudities, a freedom of Stools is the main Remedy, so their Retention must breed them; and therefore its Causes ought seriously to be consider'd: If it depend upon an Acidity in the Juices, we are to consider that this betrays it self by Belchings of four Humours into the Mouths of such Patients; if upon a *Fever*, the Heat, Pulse and Thirst discover it; if upon Diet, they ought to know that all sour, astringent, or viscous Meats or Drink, are apt to arrest them; nay, it sometimes happens from a voluntary Retention for want of Conveniency; in this Case the Excrements dry apace, and stick close to the Guts, and hinder their own Descent; from what Cause soever it proceeds, it disturbs the Head, for they lye in the Road of the descending Vessels, and whenever the *Rectum* is so enlarg'd as to press the Iliac Branches, it necessarily follows, that the Circulation will be confin'd to the upper Parts, and will thereby fill them with Blood, and as the Head is membranous and bony, there will be difficulty for it to pass thro' those small

small and sensible Fibres, and Headachs will often ensue, which indeed are generally Attendants on Costiveness; and moreover, since some of those Particles which make up Stools, are suck'd up by the Veins, and are blended with the Blood, they are an additional Cause of those Headaches, which Hypochondriac's so often complain of. Costive People do frequently complain of Hartburnings, but either sour or bitter will occasion them; for to this Disorder, it is but necessary there shou'd be a troublesome Irritation of the Fibres of the Stomach, either of which Humours, if concentr'd, will effectually do: None are more subject to them then Brandy-Drinkers, and nothing is more usual, then sour Vomitings in such as are very liable to them; and how Bile Regurgitates, or Sours are generated within us, has been shewn above: Costiveness is a baneful Disorder in warmer Climates, where they use *Limes*, their Liquors are dash'd with them, and they are often seiz'd with Colicks ending in Palsies; however, wary People travelling into those Parts, as I am well inform'd, will be seiz'd with those Colicks and Palsies, tho' they have never touch'd them: The Heat is sufficient to dry up the *Mucus* of the Intestines and Nerves also, from whence Costiveness ensues in the Bowels and Obstructions in the Nerves; and nothing can prevent these Effects, unless Oils are seasonably

ably interlarded with their Diet, and unless they dilute frequently with smooth Drinks.

THE Account Dr. *Cheyne* gives of Costiveness, is too short and imperfect; for besides the Paucity of Victuals, the Heat of our Liquors, the slow Digestion, and the Weakness of the peristaltick Motion, others may concur not relating to these Heads; for moreover, if they drink too sparingly, 'tis hard to avoid being Costive; there is a certain degree of Dilution necessary to keep the *faeces* from being too dry, and sticking to the Sides of the Intestines; and the nature of the Victuals are also to be consider'd, which may consist of Parts too stringy and juiceless, and as such seldom change their Figure, they roll down too lazily, and rub against the Sides of the Guts, and are long detain'd; besides, if the Intestines want their natural *Mucus*, which happens from numerous Cases, the Guts become very dry, and unfit for the descent of Excrements; and sometimes the Cholera is wanting, as in Jaundices, which is one of the main Promoters of Stools; nor are purging Stools always a Sign of an intemperate Meal, the Quality of the Victuals has a great share in producing those stercoraceous Fluxes, and they who are of tender Stomachs, tho' they eat little, but such Victuals as are, we call it, too stirring for them, will have such Stools; and
where

where the Quantity offends once, the Quality is ten times in Fault. Those tender People really have not so large Stomachs, as the Doctor gives them; they don't stand to all sorts of Meats and Drinks, nor do they eat plentifully; but if we consider how much they farce their Victuals with Spices, or Pickles not agreeable to their Constitutions we may easily guess what a *Stimulus* these prove to the whole Canal, and how readily the Fibres feel their Irritation; so that it is well judg'd to affirm such a Meal occasion'd such Stools; but whereas they eat very sparingly, it cannot be properly call'd a *full Meal*. We do not doubt, but there are some Hyfterical Persons who have devouring Stomachs; we meet with some, who have even canine Appetites, who will devour what they can by no means digest; but on the other hand, very few in the whole, of such Persons are ravenous; for the Sour that lodges in their Stomach is generally too corroding to create an Appetite, it rather makes them vomit green Stuff, that corrodes Iron, and then they have an utter Aversion for Victuals; so that we are often oblig'd to prescribe them Bitters and Spaw-Waters, in order to abate this Sharpness at Stomach, and to bring down its Edge; from all which, it must be granted, that the Quality

lity of the Viſtuals is the moſt likely Occaſion of Purging Stools, moſt People having a better Meaſure of their Stomachs, than to cram down Viſtuals againſt their Inclinations, whereas few can ſhun to piddle upon a Morſel deliciously dreſſ'd, even tho' they are almoſt ſure to ſuffer for it.

So long as the *Urine* answers in Quantity to what we drink, and ſo long as it is well tinctur'd, it contributes to the Preſervation of Health ; the Proportion of Principles in it ſhou'd be exact, and it generally betokens the Nature of the Blood ; becauſe if it is pale, it ſhews that either the Blood or Urine, abounds with too many watry Particles ; if it is too red, it ſhews that the Blood abounds in Salts and Sulphurs ; if it be Citrin, it generally betokens a Blood juſtly conſtituted ; ſo that the Salts and Water do not exceed more, than is fit to keep the Juices of a moderate Conſiſtence ; for if it be too thick, it wou'd ſtop in ſmall Canals, and produce Obſtructions ; if too thin, it wou'd boil and diſtend them, and endanger Breaches of the Veſſels ; or however, Fluxes of various Sorts, by which the Patients wou'd be pin'd away ; whereas, when it is of an Amber or Citrine Colour, attended with a chylous Sediment, it denotes a juſt Proportion of Principles

in our Blood, fit for that *Intestine Motion* which is specifick to our Nature; none, can deny such a Motion within us, as we call Effervescence, but the *Modus* of that is not easy to explain; if we view Bodies, that being blended effervesce or ferment, in a Microscope, all we can see, is that Bubbles arise from certain Points, and take different Rounds, which break, and then disappear; whether this arises from *Friction*, as Sand in a Bag, or from *Attraction* and *Repulsion*, or whether from an innate contrariety of those Bodies, is not worth while to dispute it; it is sufficient there are Bodies found within us, which are of contrary Natures, as Experience informs us, which being blended do raise Heat, and which being strictly united by Fire, and expos'd, rise into a Flame. I observ'd above, that the pale Water denoted either the Blood or the Urine to be watry; if both, there is no Heat almost in the Patient; but if the latter only, then it shews Spasms on the urinary Ducts, which straiten and suffer no grosser Particles to pass thro' them; they feel great Impediment within, their Heads feel heavy and mazy, their Breast is contracted, they complain of Choakings, if they feel no Hardness at Navel, at least their Bellies are inflated; their Pulses is often low, and very frequently quick, as daily Experience has inform'd us.

If the Water exceeds in Quantity, as it does in hysteric and hypochondriack Patients, or as it does in a *Diabetes*, and, as I have seen it do in a Catarrh, where it is Pale; as it is void of Contents, it must be specifically lighter than if it were colour'd; those exceeding Quantities of Salts and Sulphurs, which at other times tinge it, must be wanting; and if the Blood be void of them, it is impossible for such Persons to avoid Cachexies or Dropsies; because, where there is little or no Effervescence in the Blood, the Particles not moving among themselves, the Circulation at last will be affected, and their Fluxes will then stand still, and congeal into a Jelly in the Capillary Vessels; but if the Blood is fraught with them, and the thin Particles only are drain'd thro' the Kidneys, then the Retention of these superfluous Salts twitches all the Membranes into Contractions, as we Experience in hysteric Fits, which are known to be about to cease, when the Water begins to be higher colour'd, and to lessen in Quantity: The Water of hysteric Women, and of Drunkards is easily distinguish'd, because the latter plac'd upon a Fire, or try'd with Alkalines, will not be precipitated; but the former will: From which Instance it appears, that altho' there is not Matter enough to send down a Sediment, yet there are some

heterogeneous Particles contain'd in the Water of Hystericks; and, as Physicians are call'd to all sorts of People, this may serve them as a Directory to distinguish between a Fit of Hystericks, or Drunkenness and Dissimulation. Having tasted the Water in a *Diabetes*, I did not find it sweet, as Authors have affirm'd; it was rather tasteless; or however smooth, and void of Saltiness. The Catarrh I speak of, where a *Diabetes* seiz'd a Gentleman, was the most surprizing I did ever see; he was seiz'd with a violent Defluxion of Rheum upon the Lungs from catching Cold, which was diverted by Bleeding and Catharticks; the Humours left the Lungs, and took a Rout to the salival Glands, which spū'd out above two Quarts in a Day, distinguishable from a mercurial Salivation, no otherwise, than by the want of Smell: By a continuance of Evacuations, the Humours left these Glands, and turn'd downwards upon the Kidneys, and then the Patient was in danger of perishing with a *Diabetes*, which for that time was taken off after the ordinary manner; of which, however, he dy'd the Winter following, being, as I was inform'd, seiz'd, upon a Cold, after the same manner.

If on the other Hand the Water be retain'd longer than usual, or its Quantity lessen'd, then the Bladder is stretch'd with the

the excessive Weight, and cannot perform its Office : this is common to Lawyers and Courtiers, who being oblig'd to sit or stand longer than Nature can bear upon necessary Affairs, when Nature calls upon em, restrain so long, till the Bladder is over-stretch'd, and loses its Power of Contraction ; for such a Suppression, a *Catheter* is an immediate Remedy : But if this Retention depend upon the Grossness of the Blood, which does not part from its Serum, we must expect a Train of cold Diseases to ensue : It is not easy to remedy this Suppression ; I have known the fam'd Diureticks fail of their Effects. These irritating Medicines, to speak the Truth, seldom do encrease the Quantity of Urine, as some imagine ; we give the Juice of *Millepedes*, Tincture of Salt of Tartar, dulcified Spirit of Nitre, and the like, to little purpose ; the sole Method of promoting Urine to its usual Quantity, is to amend the *Crasis* of the Blood ; and altho' it sometimes happens, that a Draught or two of Punch will have this Effect ; yet for the most Part, the Water never continues to flow freely, till the Blood and Juices are returned to their natural Temperament, from whence they departed ; and as the Causes producing this Iichury are numerous, they must be known and well distinguished, e'er any great Good can be expected ;

pected: If it arise from the Bladder, we are to consider whether it be a Stone, a Grume of Blood, a Callus, a Tumor, a Palsy, a Straitness of the Orifice, or any other Cause, that introduce it; if the Cause be from the Kidneys, we must know, whether it proceeds from a Stone, an Inflammation, an Abscess, or Ulcer, from a Plenty of Blood, or any Cause of the like Nature, before we attempt to relieve it. I don't know of any Disease whatever that has worse Effects, or is more difficult of Cure, than a Suppression of Urine; and therefore it ought to be well guarded against.

Sanctorius is copious on Coition, as if no other Evacuation were of Value; he shews us how, if excessive, it curbs Perspiration, hurts Concoction, occasions a Lassitude, increases a Perspiration of crude Humours, destroys Agility, prejudices the Lungs, cools the Stomach, raises Palpitations, introduces Obstructions, checks Stools, (hence some commend it in *Diarrhaeas*), hurts the Eye-sight, destroys the natural Heat, raises Inflations, heats the Kidneys, and causes Gravel, introduces Catarrhs and *Syncope's*: All these Effects depend upon an excessive Draught of a Balsamick Liquor from the Blood, and a Bent towards a particular Part; for it would not cool the Blood, and heat the Kidneys, if the whole Blood

Blood were not drain'd of Spirits, whilst the Blood's Motion were more than usually determin'd towards the Kidneys; and from hence it is, that such as have us'd themselves to the Repetition of this Action, as far as Nature would bear, become more able thereby: But on the other Hand, an Abstinence from it, disables, stops Perspiration, makes Men effeminate, brings on a Weariness and Inability; and by being corrupted, produces many hypochondriack Cases; from hence proceeds that monstrous Appetite, call'd the *Furor uterinus*, so that whilst it continues to stimulate, it enrages the Spirits, and moves the Blood into various Disorders; but, when by a long Abstinence, the *Semen* has forgot its Road, the Passages begin to be block'd up, and they become natural Eunuchs.

THE Use of the *Saliva* or Spittle, will discover to us, what Damages can accrue to Mankind from its Suppression or Excess: If it softens the Fibres of the Victuals, and renders them more fit to part with their alimentary Tincture; if it contains Principles fit for fermenting, as doubtless it does; if it flows constantly, and is swallow'd into the Stomach for softning, fermenting and blending the oily, the saline and watry Particles together, and making seemingly an uniform Liquor, which Physicians term *Chyle*, it answers Nature's first Purpose of

Digestion: How imprudent must they be then, who are prodigal of so useful and so necessary a Liquor? Smoaking is become an universal Practice, and is us'd more as an Amusement, or an Assistant for Guzzling, than for any Good expected from it; mean while nothing contributes so much to abate our Appetites and Concoction, as this Abuse: The Salts of it are of the alkaline Kind; besides, it is stock'd with rank Sulphurs, neither of which conduce to raise an Appetite; and if Spitting be necessary for the Ends and Purposes mention'd, why will we be lavish of so precious a Store? I cannot deny how beneficial Smoaking is to Persons subject to Defluxions on the Lungs; it is a strong and constant Revulsion, and I have known phlegmatick Coughs and Hoarsenesses taken off by it, where other Remedies fail'd; but then are healthy Persons to be pinn'd down to Rules, which are only to be follow'd by some few subject to breed too much Phlegm? Nor shou'd those very Persons tamper with Tobacco in the Summer, which is a Season that dry's our Humours; in short, the Healthy, and they who are of a warm Constitution should avoid it; because the first perform their Functions well, and the latter would be more heated thereby: One Advantage attends the Use of a single Pipe, that it relieves Costiveness; Smoaking also
by

by drawing the Spittle, contributes to make us lean, and scorbutick, Persons whose Mouths are apt to flow with Spittle, by spitting often, grow emaciated: Let the Taste of it be ever so nauseous, the Damage we receive by swallowing it, does not come up to the Disadvantage we suffer by throwing it out; a deprav'd Digestion is better than none: When therefore we spit out all the *Saliva*, or when it is suppress'd, and our Mouths are to dry, we suffer equal Damages.

I have already, in the Chapter of Diet, shewn what we suffer from the **Menses* and † *Lochia*, but as this is the proper Place, I shall only take a transitory View of the Advantages of their Regularity, and of the Damages received by their Suppressions and Excesses: The Measure of Womens Monthly Purgations is not determin'd; but some Authors have computed, that the Quantity of a Goose-Egg is sufficient for most; it must be computed by their Size, their Appetites, and in short, by their Plenitude: And as an exact Proportion is hard to be commanded, therefore it is, that Women are generally tender and sickly; if their Blood become too gross, they labour under Green-sicknesses, and all its

* Monthly Purgations in Women.

† Childbed Purgations.

Consequences ; and sometimes inflammatory Disorders, if the Blood be rheumatick ; if their Blood be too sharp and hot, they have too many of them, and complain of Anxieties and Weakness ; and at last the Excess throws them into Dropsies. If the *Lochia* flow enough, the Blood, which had fill'd and distended the *Uterus*, is thrown out, and then that Organ returns to its ordinary Size ; but if they are suppress'd by Cold or otherwise, Inflammations and inflammatory Fevers ensue, which are attended with Convulsions and Death. Where they flow immoderately, their Strengths decay apace, and they die of Swoonings ; and, the Spirits being much disturb'd, of Convulsions also.

THE Bleeding *Piles* are to Men, what the Monthly Purgations are to Women ; with this Difference, that the Sedentary and Solicitous are only subject to them ; whereas the former are natural to all Women : And, as Care and a sedentary Life are the Business of the Female Sex, perhaps the same kind of Life is the Occasion of these Fluxes in both ; *Virago's*, who use strenuous Exercise, have few of them, and this confirms my Assertion the better. They become therefore necessary to some People, and ought carefully to be promoted, when Nature has once found that Vent ; for if they be check'd, they fall upon the Kidneys
or

or Bowels, as I have often experienc'd, and particularly in a Gentleman, who had them every Month; but, by some Accident, which I can't call to Mind, they forgot their natural Course, and rush'd into the Kidneys with great Fury, and then he made bloody Water in large Quantities, which weaken'd him much: After having often curb'd this Flux, and advis'd him to a Method, first, how to make it run into its former Channel, and then to keep it within Bounds, I perceive the Method was represented as tedious and uncertain, and a shorter Way found out, by which he expir'd so suddenly in the Night-time of a Vomiting of Blood, that none, even of the Family, could come to his Assistance, till he was dead. As the same Symptoms attend their Suppression and immoderate Flux, and as the same Cure is requir'd for these Faults, as in the *Menses*, 'tis probable they are univocally caus'd; and they are equally useful to Men, as the Months to Women.

'Tis in vain to proceed to enumerate more of these Evacuations; I shall only conclude, that where any of them, especially those of Blood, do exceed their natural Quantity, the Juices are thereby depauperated, and rendered cold; the Spirits, and all the Warmth of our Body are exhausted; for Warmth shews that there are active Principles lodg'd within us; that
is,

is, that the Blood is loaden with Saline, Solid, and other Corpuscles of a contrary Nature, which by their frequent Attractions, Occursions, Frictions, and Attritions, divide the Juices into such minute Particles, that they will pass the least Vessels, and then the Secretions are regular, and are constantly well perform'd; but when large Evacuations happen, these Salts, &c. are carried out of the Vessels, the Motion then abates, and Stagnations, Obstructions, Cachexies, Dropsies, Atrophies, and such-like, do necessarily ensue. And on the other Hand, if the natural Evacuations are suppress'd, the Blood-Vessels are fill'd with all sorts of Particles; so that sometimes they become gross thereby, and then Jaundices, *Asthma's*, Apoplexies, and such-like Diseases, are introduc'd, where the Fibres are stopp'd up and clogg'd with phlegmatick and cold Humours; at other times they become too saline; and then Leprosies and other Eruptions ensue, where the Salts erode the Skin, are thrown out, and scale off; but if the Humour retain'd, chances to overheat us, and inspissate the Blood and Serum, then Inflammations and inflammatory Fevers seize us, where the Viscid is loaden with picquant Salts; by Virtue of which, they, in the smaller Vessels, stimulate the Fibres sorely, and invite thereby a Flux of Humours to the Parts,
from

Sickness and Health, &c. 413

from whence Inflammations arise. Quartans, and all intermitting Fevers, do sometimes spring from the Retention of some particular Secretions, where the Shiverings and hot Fits succeed each other in a regular Manner; that is, where the Juices are so concreted at first, that all intestine Motion is drown'd for a while; which is follow'd by a Paleness of the Face, a Difficulty of Breathing, a Weariness, a Coldness of the Back, and Faintings; but after the Fibres have toss'd the Juices by their Oscillations, and mov'd them into Occursions, the Particles begin to exert their fermentative or intestine Motion, and then Heat ensues. These, and many more Diseases, arise from Retentions or excessive Evacuations, which more particularly belong to a Treatise of Diseases, than to this Place.



CHAP. VI.

Of the Passions.

IF we consider the Passions in a moral Sense, we enter into a large Field, where the Irregularities of our Wills betray the best Part of Mankind into Precipices, which baffle all the Rhetorick of Divines.

Divines. We hear a great many good Things; but follow no Precepts; we are a Creature made up of Soul and Body, of an intelligent or spiritual Being, and Matter; the Almighty has chain'd these two into one Compound, each of which have different Laws: They are however so fram'd, as that Matter shall be subject to the Spirit, unless the Understanding be obscur'd by Diseases of the Brain, or unless upon the first Assaults of them, where the Laws, both Divine and Human, are very favourable: For what are the first Motions of Passion, but short Fits of Madness; in them the Spirits run their Career with greater Fury and Force, than can be conquer'd at first; we are all sensible also of the Force of Custom; Habits almost entail a Necessity upon us, which want the Hand of God in an eminent Degree, to deliver us from their Tyranny. Nothing more strongly confirms the Presence of a spiritual Being, than *Abnegation*; it both argues a supernatural Gift, and a Soul: Brutes do, necessarily, *will*, and as far as they can, execute what pleases them; but Men, instructed from the Law of God, have strong Appetites, which they refuse to gratify at so great an Expence, and this we call *Vertue*: Where our Appetites run high, the Diffidence we have of our selves makes us fly those Occasions, which strike

strike the Imagination too forcibly : The *Will*, say the Divines, is a blind Power, it follows the *Understanding*, as this does the Impressions made on our *Senses*; if therefore this intermediate Power, plac'd as it were between our Will and our Senses, shou'd receive any Prejudice from the sickly, or disorder'd State of our Fluids and Solids, it neither receives the Impressions well, nor gives a just Idea of them to the Will; so that if Precepts and Grace don't prevent us, we fall into grievous and pernicious Errors; nor can they merit this Appellation, if our Senses and Intellects are much diminish'd. We *will* nothing but under the Shape of *Good*; a great deal of Pains shou'd therefore be taken with our Intellect, that it may have a true Taste of what is Good, and that it may represent no false Colours to us. Much Learning and Reasoning have been made use of since the coming of the *Messias*, to instruct the Understanding upon this *Topic*; but still our Passions prevail; all the Instances of Harms ensuing, and Good to come, prove too feeble to persuade when the Fire is kindled; all the Remedies prescrib'd, without complying with supernatural Grace, prove Fruitless; we still are deaf, and run counter to Commands and Injunctions; the future Pleasures or Pains seem distant Prospects, when

when our Appetites are hoisted: How unhappy Mortals shou'd we be, if, like our Forefather *Adam*, we were to be banish'd from Paradise for our first Fault! But the new Law has provided us richly with Cures for our Wounds; for if we wou'd but hope and fear strongly, and apply the Remedies prescrib'd, our Passions wou'd be kept in Chains; strong Hopes of a future Reward and Happiness, join'd with a Horror of Evil, and a strict Application of the Instruments of Grace, seldom fail of soothing and calming those terrible Storms rais'd within us: Were we so nobly fram'd, as the learned Dr. *Cheyne* expresses, there wou'd need no Dictates to instruct us how to govern and tame these Wildnesses. If the Soul be a Spark or a Ray of the Divinity, if it be a Piece of the *Rock*, and upon Departure, it takes up that *Place* of this *Rock* from whence it was hewn, the Doctor not only convinces the World very fairly, that he is no *Socinian*, but he even entitles every Man to a Share of the Divinity; he grants no less than is wish'd for: To have an increated Being within us, and to be impeccable, which necessarily follows, we might justly say what * *Lucifer* was condemn'd for, nor shou'd we be ensnar'd with those Debaucheries, which

* I shall be like unto the Highest.

he elsewhere complains Mankind destroys himself with; thus Dr. Cheyne plays *Jupiter's* Game with human Race; he debases him, and exalts him according to the Humour that reigns, he tosses him high or low, like a Tennis-Ball.

WHOEVER will give themselves the Trouble to look into the † Guardian, they may see there the Rock from whence Dr. Cheyne's Scheme of the Passions is hewn; in that Paper the Similitude is carried finely on; but when it comes to be drawn into *Propositions, Scholiums, Corollaries*, and the like, it smells so much of Mathematical Pedantry, that it loses of its Beauty by being turn'd from an Allegory into a Scheme; and moreover, what the Doctor has added, does not seem entirely Orthodox, which they, whose Talents lye that way, may examine.

So far Physicians have occasion to meddle in this Moral Part, as to know how to instruct their Patients, to avoid or conquer those Passions, which throw them into Diseases; 'tis their Affair to shew those how to parry them, and also to demonstrate to them, how they affect the Body, when they produce Distempers. Good Sense, and raising a different *Idea* often do this Work;

† Vol. 2. p. 152. 153. 154. 155. No. 126. Wednesday Aug. 5.

there have been Instances, where Men were Cowards by Nature, and yet good Sense and Avarice have transform'd them into Bullies and Generals. *French History* gives us a glaring Instance, how a Lawyer, but a Coward, behav'd so gallantly in Battle, that the General taking Notice of his Bravery, mark'd him out for Preferment; the Gentleman finding an insuperable Difficulty in conquering this Passion, went to the General, and wou'd have thrown up his Post thrice, after so many several Fights, which Liberty was deny'd him, with a sincere Promise of rising, whenever a fair Opportunity offer'd to advance him to a Post worth his Acceptance; but upon assuring his General, that it was not Promotion but Dismission he aim'd at, and affirming, that he found himself upon so many Tryals an invincible Coward; the General dismiss'd him, wishing his whole Army such, and prevail'd with the Court for Preferment in the Law, which he got. How many Instances cou'd be produc'd, where Men, the most passionate of living Creatures, have become by good Sense and Piety, the meekest of Mortals! Yes, the Passions are to be conquer'd, if we go the right way to work, and the Conquest is richly worth our Pains, where great Good is expected thereby: The Advancement of a Family, the Recovery of Health, and Prevention of Relapses, the
Sereni-

Serenity and Calmness of the Mind, and our future Felicity, do all depend upon this Conquest.

I leave it to moral Writers, to consider the abstract Nature of the Passions; my Business is to shew what Emotions and Tumults they raise in the Brain, and what Diseases they occasion and relieve, which I shall explain with the utmost Perspicuity.

SOME few Observables ought to be premis'd, namely, that Physick is of little Use to change a Disposition to Passion; this ought to be done by studying how to rectify the Mind, and how gradually to accustom our selves to a different one; Nature will not yield at one Blow, she is stubborn, and must be overcome by repeated Acts; and therefore where it may safely be advis'd we are to seek occasions of Conquest, or represent our selves as if placed in such Circumstances, that we may take occasion to introduce a different Habit; that however where Passions are rais'd from the Disposition of the Body, and such we call Natural Inclinations, we may change the Juices by proper Discharges; for in excessive Melancholy, encreasing Perspiration, or some other Equivalent, Secretion takes off the redundance of gross Humours, which do often give Rise to this Disease; and upon the same Account, such Diet as is aperient in aiding, and perhaps heating,

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will

will attenuate the Juices, will generate more ætherial Spirits, and greater Plenty also of them, and will make them move more briskly forward, and consequently will banish those dismal Representations which deep Sorrow and Melancholy are accompany'd with. That the Force of Passions is greater upon the Juices, than that of Exercise; for the Scene of Action is originally in the Brain, and an excessive Tumult rais'd there, is more effectual in moving the Fluids, than if began in the Blood; * neither Rest nor Sleep will take off this Tumult, but both allay Fatigue or Over-heats. When we are call'd to relieve a nervous Disease, or even a convulsive Disorder, depending upon a hurry in the Spirits, they are not easy to be conquer'd: An Irritation ever so violent may soon be allay'd; but when the Spirits are put into Motion, their Force is so prevailing, that they are soon put into Motion, but hard to quell; and † *Sanctorius* observes, that Perspiration is harder to be reduc'd to its former and natural State, when it is augmented by Passions of the Mind, than if it had been

* *Motus vehemens animi differt a motu vehementi corporis; hic quiete & somno; ille nec quiete nec somno cessat. Sanctor. Aphor. 41. De Animi Affectibus.*

† *Corpora quæ perspirant plus solitio, non propter motum corporis, sed propter vehementem aliquem motum animi, majori cum difficultate ad solitam & salubrem perspirationem reducuntur. Aphor. 38. De Animi Affectibus.*

increased by Exercise. From these Premises it appears, that the Soul and Body have mutual Effects upon each other; that the Blood will dispose Persons to Rage; and that the Spirits enrag'd, will throw some into *Diarrhæa's* or Fluxes. This Connexion is certify'd by every Instance of Life; but as no Man could ever yet explain the *Modus* of the Union, methinks it is a bold Task to undertake to determine on higher Matters, till we can conquer this Puzzle; we pronounce with an Air of Assurance on what concerns the Divinity and all its Ordinances, and yet we can't say any thing certain on our selves; the highest we can go, is to affirm an Union between Matter and a spiritual Form, and it would be acting against common Sense to deny it; but why this Form should be oblig'd to lose its Power of acting where the Brain is distemper'd, here all are silent.

BUT to proceed to Particulars; let us take a View what Effects some of the most noted Passions have upon human Bodies: In *Sadness* the Ducts and Siphons of the Brain are in like manner straitned and contracted, as Bathing contracts the whole System of the Fibres; if a retrograde Motion of the Spirits could be allow'd of, we should say that they retir'd into the Brain, and fled into a safe Retreat:

However, it looks as if the Nerves in fearful People had an Anti-peristaltick Motion, by which the Spirits were impeded and check'd in their natural Excursions; and this Condition of the Nerves is the rather to be thought the true State of Nature under Fear, because all the Consequences follow naturally from it: For why does the Blood flow more sparingly and more lazily thro' the Vessels, but because the Nerves being clos'd up, do permit no Passage for the Spirits to run to the Heart, which being depriv'd of their Influence, cannot contract or dilate as it ought? Why do we sigh when Sad? But because the Blood stands still in the Lungs for some time longer than usual, and they feeling the Load at last, are stimulated to shake it off by a strong and long Inspiration, which is of Course follow'd by a long Expiration. Why do the Cheeks in Sadness grow wan and pale? But because all the Blood does not run to the Extremities for want of Spirits to actuate its Course. Why does their Tongue fail? But because the Spirits are deny'd to the Muscles that move it. Why does their Heat abate, but that the Particles are congeal'd, and a Lentor is introduc'd, from a decreas'd Influx of the animal Spirits. From this State we meet with destroy'd Appetites, and with deprav'd Constitutions, from the want of Spirits,
and

and from a want of intestine Motion: 'Tis usual in Palsies to want a Stomach, and to digest badly, because the Spirits concur to every Action in Life; wherefore, if they are wanting, that Function, whatever it is, must be ill perform'd. Why does Fear produce the Scurvy; but because it arrests the Motion of the Spirits and Blood; and Juices stagnating grow tart, and taint the whole Mass? From hence it is that such People are subject to Heart-burns; because the Juices growing sour, separate these Humours into the Glands of the Stomach; and from hence also a lasting Melancholy is produc'd: Our Thoughts depending on our Juices, if they are gross and sour, the Spirits partake of their Taint, and move slow; from whence heavy Ideas ensue. Why do intermitting Fevers attend the Dejected; but because the Juices, for want of due Circulation, stagnate and grow sour, and coagulate the Blood; Perspiration abates, and introduces a bastard Plenitude; so that the Blood is fill'd with a Quantity of heterogeneous Matter, first standing still and creating a Coldness, and then moving briskly forward, after a strong Concussion of the Fibres, and introducing Heat and Sweats? Why are sad People subject to Vapours and the hypochondriac Disease, but because the Spirits being arrested in the Brain, are few, and from hence the

E e 4 Stomach,

Stomach, the Bowels, the Heart, and every Part is robb'd of their Influence; the Juices therefore stagnate every where, and growing sour, irritate and twinge the most sensible Membranes into Pains, occasion Inflammations in the Bowels, and blow up the Mesenterick Nerves into Spasms, so that somewhat like a Ball rises at the Navel? Why are Obstructions produc'd from this Passion; but because all viscid and gross Humours are the Cause of them; but the Blood moves slowly, and consequently congeals for want of Motion; and Motion is a Consequence of plenty of Spirits; since therefore they are shut up by this Passion, Obstructions ensue. Why do the Parts grow hard by immoderate Fear; but because they grow rigid for want of Humours, and the Humours are arrested in their Motion, wherever Spirits are wanting: Hardness is a close arrangement of the Fibres; if they contain Moisture between them, they are soft; but if this Moisture is drain'd or deny'd, they approach to each other and grow hard; and as the Spirits don't circulate the Blood, affording Moisture, the Fibres therefore grow hard and rigid.

I CAN'T pass by one Observable, namely, that *Terror* is only the Height of Fear, and what grievous Consequences do we not see attend this Passion? It immediately

ately curbs any Evacuation of Blood; it takes off convulsive Coughs, and will, in an Instant strike Persons dead; an odd Instance of which I met with in my Practice; *viz.* a poor Creature having occasion for Water out of a Draw-Well, and, in approaching the fenceless Place, slipped and fell down; so that a Gentlewoman at a small Distance, believing it impossible for her to escape falling into it, took a Fright, and was seiz'd, (as I was inform'd for I came too late for her Assistance,) with Convulsions and Swoonings, of which she dy'd in less than two Hours: Here I suppose we may allow that the Spirits were at once deny'd all free Passage from the Brain to the Parts, and that this Obstruction, this Congelation was universal, so that the Body must necessarily grow cold and turn a Carcase in a small Time.

HAVING given a Detail of the *Symptoms*, accompanying and following the Passion of Fear, we will descend to some of those depending on that of *Anger*. As Fear has been shewn to depend on a Contraction of the Fibres of the Brain, so is it reasonable to conclude that Anger dilates Passages, and produces all its Consequences by Virtue of this Principle.

FOR why are Persons subject to this Passion capable to bear Fatigue? But because these Spirits flow freely into the
Fibres

Fibres every where, and do therefore actuate them uninterruptedly; they keep them therefore constantly supply'd, and in a proper Degree of Tention. Why does this Passion excite a Flux in some People? But because the Spirits flow into the Intestines, and contract them into Spasms, and the Reason which determines them thither, must be, that the Nerves running to that Canal, are wider than others. Why are they subject to Convulsions, Epilepsies, and Palpitations? But because their Spirits flow with a vast *Impetus* into all the Nerves; when Nerves are blown up, they shorten and draw the Parts, to which they are chain'd, towards the Original; that is, they throw us into Convulsions. Why do Fevers of all Kinds ensue this Rage? But because the Blood and Vessels are hugely toss'd by it: We know indeed of some Instances, where the Small-Pox have been introduc'd by excessive *Anger*, and we also cou'd produce others where *Terror* occasion'd them; and as either Passion has this Effect, 'tis worth while to explain, how the same Disease may be produc'd by so different Causes: If we consider that this Distemper immediately follows these Passions, we may readily give the Reason, why it is produc'd; for whether in Anger or Terror, the Fibres are shock'd egregiously; and what every

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ever noxious Matter lodges within us, may be driven into Commotions ; but this Disease is the Consequence of some Struggle rais'd in the Juices. Ravings have ensu'd Rage, because Rage is a short Madness, and Madness is a continual Rage so that they differ only in Degrees. And as Anger is a dangerous Edge-Tool, for 'tis not easy to be angry and not Sin, it ought never to be advis'd ; Fears are fit Passions for Women, and Rage shou'd only dwell in Bedlam ; and as the Passion of Joy is sufficient to excite a Motion in our Fluids, we will trace its Effects on Mankind.

CHEARFULNESS helps forward the Perspiration, and therefore contributes to make the Body lighter, because it dilates the Canals of the Nerves, and gives a free *exit* to the Spirits ; it encreases their oscillatory Motion, and also that of the whole System of our Fibres ; it therefore dissolves and fuses the Blood, for when the Fibres are vigorously vibrated, the Fluids are thrown forward in Proportion to their Motion, and if our Juices be kept moving, they grow thinner thereby ; hence the *Systole* and *Diaстole* of the Heart become regular and steady ; hence all the Secretions, depending upon a regular Circulation, are justly perform'd, nor is any thing retain'd which may taint the Mass of Humours, nor is any Matter thrown off, but
what

what shou'd part from the Blood. However, an Excess of this Passion will disturb our Rest, and exhaust our Spirits, and it has been known, that excessive Joy has occasion'd sudden Death. We have Instances, how Excursions of the Spirits in too plentiful a Degree, do weaken, and sometimes destroy in Convulsive Cases; the Hysterick Cordials so frequently prescrib'd, have no other View than to prevent the Consequences attending such an Excursion. Let us take a View of an Epileptick Person after a Fit; they fall into Melancholies, Palsies, Apoplexies, *Tremors*, loss of Senses, and phlegmatick Diseases; they complain of Pain and Soreness all over them, and are excessively weak for some Time after, these Symptoms shew what Weakness the frequent Excursion of Spirits brings on the Epileptick; in like manner, Joy exceeding its Bounds dissolves and weakens us.

AND as all Passions partake of these mention'd, as to their moving the Spirits and Juices, we shall supersede any further detail on them; for since the Design of these Sheets was only to take a View of whatever in the Rank of Non-naturals, was hurtful or useful to Mankind, and to give the *Modus*, as near as we cou'd, how and why they were so; having perform'd that Duty, 'tis high Time to close up

up this Discourse, and proceed to the
Non-necessaries.

C H A P. VII.

Of the Non-necessaries.

TH E S E differ from the preceding
Non-naturals, inasmuch as we may
or may not use them; for Example, we
can't live without Air, Victuals, Sleep,
Motion, and the like; but it is *not neces-*
sary for us to live in Foggy or Fenny
Countries, to be confin'd to certain
Meats or Drinks, or to Sleep longer than
we please; wherefore we shall consider
some Remarkables under this Head, which
have not been handled above.

To this Head Cloathing may be re-
ferr'd, which guards us from the Injuries
of the Air; they ought to be proportion'd
to the Perspiration, which we must keep as
near as we can to a stated Quantity;
wherefore in this Country of *England*,
the Winter and Summer differing vastly in
Heat, nothing deceives the better Part of
those lying down of Fevers, so much as the
Mistake of not putting on their Winter Gar-
ments

ments soon enough, and of leaving them off too early; hence, I say, proceed all our Autumnal and Vernal Fevers: Indeed they who indulge in Wine, to such a Degree, as keeps up the due Quantity of *Perspirabile*, may escape Colds or Fevers; whether at the Expence of Frugality and Decency is not my Affair to discuss.

To this Head principally belongs the *Kind of Life* we lead, and as our Professions and Trades throw us into Diseases, it were proper to descend to those Particulars; but as this has already been largely treated on by the learned *Ramazzini*, it may not be amiss to give a plain and concise View of some Part of that Work to our Readers, who have not Leisure to peruse so necessary and useful a Piece.

THE Symptoms attending Workers in Mines are Costiveness, difficulty of Breathing, Paleness, the Splenetick Disease, and Swellings of the Legs; wherefore they shou'd be careful of rectifying the Air, by making as free a Vent above as possible, and by living on fat Broths, by taking Balsamicks, Milk, and the like.

GILDERS are Asthmatick, Paralytick, and subject to Giddiness and Scurvies; wherefore they shou'd often take Physick, and keep warm by the Fire; because Physick carries off Mercury, and Fire exhales it.

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CHYMISTS labour under Consumptions; the corrosive Steams gnaw and exulcerate the Fibres of their Lungs, and as *most* of the noxious Steams are Acid, therefore Alkalines, whether fix'd or volatile, are mostly of use.

POTTERS are subject to Palsies, Lethargies, and Cachexies; wherefore, Chalybeates and mercurial Purges, are Remedies proper for them.

COPPER and *Tinworkers* are subject to Asthma's, and therefore they shou'd use a soft and smooth Diet of Milk and Butter, and such like, to prevent their Disorders.

GLASSWORKERS are subject to Pleurifies, and chronical Coughs, and therefore Salts which will hinder a Congelation of the Blood are conducive, particularly the Volatile.

PAINTERS have tremblings of the Joints, Cachexies, black Teeth, discolour'd Complexions, a melancholick Disposition, and a loss of Smell; here also volatile Salts are of Use to prevent the Minerals so often swallow'd down from turning corrosive; I am also inform'd, that House Painters are liable to gouty Pains in their Feet, an Instance of which I lately met with and recover'd; and as they deal in the same Materials, 'tis highly reasonable, they shou'd prevent this Disorder, by taking volatile Spirits in all their Liquors.

WORKERS

WORKERS in Brimstone are troubled with Coughs, Hoarshesses and Asthma's, and they ought frequently to feed upon Milk Meats, and smooth and farinaceous Diet, to envelope the acid Steams, that they may not prejudice the Parts; for the Secretion will be analogous to our Diet; and when the Glands of the Lungs separate their smooth Liquors into the *Trachea*, they will sheath the acid Parts of the Steams, and prevent Damage from thence.

BLACKSMITHS are blear-ey'd, and their Eyes are subject to Inflammations, they are also Costive, for which Inconveniencies they shou'd apply Milk, Barly Water, and white Troches, either to prevent or cure, and shou'd for their Suppers eat Barley Gruel with Raisins and Currans in it.

LIME Workers are troubled with Stranglings, Difficulties of Breathing, Costiveness, tenes Hypochondres, and Pains in the Stomach, all which Symptoms are best reliev'd by Milk Meats and Oils.

THE Cleansers of Jakes are troubled with Inflammations of their Eyes, and in our Parts, with Coughs, for which warm Water and smooth things, are effectual Remedies.

FULLERS, Oilmen, Tanners, Cheesemongers and Tallow-Chandlers, fall under one Head; the Smells attending their Trades make em subject to Headachs, Giddinesses, Pale

Pale Complexions, Difficulties of Breathing, Squeamishnesses, and loathing of Victuals; for which Emeticks, Catharticks, Vinegar, and such like, are proper; because as the Steams mingle with the Spittle, and are swallow'd down into their Stomachs, they mingle also with their Nourishment, and load their Juices with nauseous Oils, which are best corrected with gentler Acids.

TOBACCONISTS are injur'd in their Heads and Stomachs; upon which Account he prescribes Vomits, and as the Tobacco contains a strong Sulphureous Salt, it wou'd be proper that such as chew it, shou'd take gentle Acids to join in with the strong alkaline Salts of the Tobacco, and correct their Irritation and Dissolutions they wou'd introduce.

BEAKERS of Corps, and Grave-Diggers, are subject to suffocating Catarrhs, Drop-sies, and Malignant Fevers; they are advis'd to Physick to carry off the Matter which is swallow'd down, and to Sours to correct these putrid Salts devour'd.

MIDWIVES, if their Patients are tainted, may suffer Ills, and *vice versâ*, Women may suffer from their Diseases, as I knew one who receiv'd a Taint from one of them who at the Time of her Labour, had a venereal Ulcer on her Hand; but as no peculiar Disease, save Fatigue, can

be secur'd against, they must, as they generally do, support themselves comfortably.

NURSES are subject to *Hystericks*, *Headachs*, *Vertigo's*, and difficulty of Breathing, to Curdling of Milk in the Breasts, and to Consumptions, besides what they are liable to, on account of infected Children; these Cases are so various, that it is hard to determine on them without Advice: As one Symptom is constant, that is, Exhaustion, they naturally take care to feed the Child by filling themselves.

VINTNERS and *Brewers*, who don't indulge in the Liquors they vend, are subject to grow Lethargic, Meagre, Dejected, Giddy, to want an Appetite, and to make much Water; because Steams, that arise in the working of these Liquors in their Cellars are Acido-Sulphureous; And therefore as they are swallow'd, or even enter by the Pores, they put the Blood and Juices into a struggle, and at first raise Headachs, and such like, from a Plenitude they occasion in the Vessels; but towards the latter End, when they have been accusom'd too these Steams, and that they cause them to make large Quantities of Water, they grow lean and lose their Strength, because this constant Drain is greater than their Supplies. As the Steams of Wine produce these Effects by their volatile

latile and lively Particles, I can't readily agree, that such People shou'd depend on volatile Spirits for a Remedy ordinarily speaking; because Sours seem better fitted to arrest this adventitious Struggle than any Volatile, and therefore Vinegar Posca, roasted Apples and such gentle curbers of Fermentation, seem better to answer their Purpose; hence it is, that dulcified Spirit of Nitre, is by some reputed an Arcanum against Drunkenness and its Effects.

'Tis observable, that *Millers* and *Bakers* labour under Asthma's, and the Reason is plain, because the Atoms of the Flour arise and enter their Breasts, and as they are of an emplastick Nature, they fix upon the Passages of the Lungs, and hinder the Secretion of that Part, from whence it follows, that the Glands will tumefy, and, straitning the Passage for Air, will bring on Asthma's. Now as these Asthma's are produc'd by an Obstruction of the Glands, the Cure is the same as at other times, only some Care is to be taken to prevent the Entrance of these Atoms.

STARCHMAKERS complain of Headach's, choaking Coughs, and difficulties of Breathing; the Headachs, he says, proceed from the Acid Particles of the *Wheat* flying up into the Air, and mixing with the *Saliva*, and with the Humour separated into the

Trachæa; so that the Blood is render'd cohesive thereby, and sticks in the Capillaries of the Head, and so occasions the Headachs: And the Mucus of the Lungs is also render'd gross thereby, so that *Asthma's* on Coughs, and Hoarsenesses, are hurried on; from this Account, we may justly infer that volatile Salts (which correct this caustick Acid; Caustick, be cause Starch, says he, corrodes Linnen) will be a Preventive-against the Diseases of these poor Labourers.

HE shews us that *Stone-cutters* die of *Asthma's*, from the subtile Powder of the Stone ascending and loading the Passages; and this I have often found verified in such Workmen, who even studiously us'd to turn their Backs to the Wind, and were fond of that Weather; and as such *Asthma's* are generally invincible, 'tis their Business to guard the best they can against them.

MASONS and *Bricklayers* are subject to Consumptions from the caustick Quality of the Lime; against which, Water-Drinking, and eating Almonds, are Preservatives, as well as sanative in Disorders from thence.

LAUNDRESSES and *Washer-Women*, by keeping their Feet constantly wet, bring on Suppressions of their *Menstrua*, and Cachexies from thence, as also Coughs, and *Asthma's*, Fevers, and Catarrhs; for which
he

he gives Emetics and Cathartics, to throw off the Redundance of Humours retain'd by the stoppage of the Pores, and Aperients to restore the Perspiration, as well as to open the Suppressions introduc'd.

HATCHELERS of *Hemp*, are subject to Coughs and Blear-Eyes, and Silk Workers to Consumptions: all these afford subtile Particles, penetrating into the Parts, and corroding them, so that Irritations and Inflammations ensue; wherefore, in order to prevent any Consequences, or to cure them when produc'd, he advises them to fall into a Milk Diet, and to take all smooth Plants to envelope the acrimonious and ulcerating Salts.

He says, that *Bath-Guides* are subject to Cachexies, which may naturally be usher'd in by too expensive an Evacuation of Humours thro' the Pores, from whence the Humours grow grosser, and are apt to stand still in the extreme Parts, so that they send others off, cur'd of the Dissemper, they themselves die of, for *omne nimium, Naturae inimicum*; gentle Bathing attenuates, whereas excessive thickens the Humours.

MARINERS are subject to the Scurvy and Costiveness, from the saline Vapours arising and entering with our Spittle, into our Mass of Blood, and coagulating it; how-

ever, I am apt to believe the salt Victuals they live upon, is the main Occasion of all their Symptoms; they take long Voyages, and it were impossible to furnish such Numbers of Men with fresh Provisions, wherefore are they oblig'd to feed upon salted Meats so plentifully, that their Blood is highly infected with it; for the Cure of which, Water-drinking, and volatile Salts will answer their Purpose: And in the next Chapter, he advises for the Workers in Salt Pits, generous Wines, Spices, and all Ingredients possess'd of a volatile Salt; nay, he advises Brandy as a Remedy for the cold Scurvy, because it dulcifies the Spirits of Salt.

To be brief, *Standers* prejudice their Limbs, and direct the Course of Humours into them; *Sitters* grow Pale and Scabby; *Runners* are subject to Ruptures of Vessels; *Grooms* and *Riders*, to Ruptures of Vessels also, and to Pains of the Back; *Porters*, to Asthma's or Ruptures; *Wrestlers* to Swoonings, and Breaches of Vessels; *Watch-makers* to Short-sightedness, or Blindness; *Singers* to Ruptures, unless they be Eunuchs; *Husbandmen* to Colds, Catarrhs, Colicks, Quinzy's, and Defluxions, all which proceed from the Inclemency of the Air, stopping up the Pores, and loading the Mass with a Quantity the Vessels can't with ease

case contain, so that it extravasates and produces the Diseases they are subject to.

SOLDIERS in *Camp* are subject to Fevers, of the most dangerous kind, which begin with Uneasiness and Anxieties, with Shiverings, and terminate in Lethargies, great Heats, weak Pulses, Delirium's, and Convulsions; whoever Consults *Cobberus's Decads* on this Head, will be satisfy'd of the Danger, and he also reckons the unwholesome Waters, the nauseous Steams, and unavoidable Filthiness, some of such Numbers will be guilty of; where Bezoardicks of the volatile Kind, after Emeticks, are found of use, to promote Sweat at all Hazards.

He concludes with the Diseases of Learned Men, who sit much, and study hard, and says they grow Cachectical, and at last Lethargick; and well they may, since they exhaust themselves to serve the Publick.

To these, many more might be added; If I had not already been copious enough; these are sufficient to shew, that procaccatrick Causes, whether necessary or non-necessary, do act univocally in producing Diseases, and that those Diseases are very often advantag'd as to their Cures, by viewing their evident Causes: If we narrowly enquire into every thing that has preceded our Distemper, and possess a true

Notion of the Qualities of the introducing Causes ; if we also heedfully look in to the Symptoms, and see what is doing within us ; and lastly, if we collate these Appearances with these Causes, it is hardly possible for us to be mistakem in the Disease, in its Cause, in its Consequences, or in the Cure, so far as can be done. But how slightly are those Enquiries made, and how unsuccessful must we then be in Proportion, may readily be guess'd. And as I have in the first Part of my *Enodia*, given Rules to direct the Enquiries of young Physicians in all these Points, I refer my Readers thither.

THUS have I given an ample History of the *Non-naturals*, as they relate to Sickness in particular, having sketch'd out a transitory View of them, as they related to Health and physical Enquiries in the * *Enodia* ; I hope 'twill be useful to the younger Physicians, who are often in a Mistake as to the Directions they give in Diseases. Allowances in these which run Counter to the Disease, are fully as hurtful as Medicines misapply'd, for Reasons already mention'd ; and I believe few have any regard to *Regimen*, which, to speak Truth, is a Correlative to the Medicines prescrib'd.

* From Pag. 1. to Pag. 51.

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There ought to be no Indication pursued without Signs betraying the Cause ; for to prescribe by Custom, is no Maxim to be observ'd by a conscientious Physician: If he errs, he has some specious Pretence for his Error: And of what Nature soever the Medicines are, the Diet and the other Non-naturals must coincide with them, or we act in Contradiction to ourselves. Liberties taken and not granted, fall not to our share to account for ; Persons committed to our Care, depend on our Judgments ; which, being ill fram'd, or ill instructed, is an Error in Conscience and Politicks too : If we are so happy as to procure Patients to entrust themselves in our Hands, but fail of relieving them for want of due Information, *magnis excidemus Ausis*, we shall soon be discarded, and, like the *French*, we shall gain Conquests which we can't maintain ; whereas, Men of true Erudition and Observation can't fail to keep Footing, since Success, or fatal Prognosticks secure their Conquests, one of which they are always Masters of. 'Tis an equal Honour to a Physician, to be able to denounce to the Patients or their Friends, what the Event will be, or how they are likely to perish, with assuring them of their Recovery, and keeping his Promise ; for it gives them a high Idea of his Judgment,

ment, when they perceive a Physician at no loss: And he who knows what is to come in Diseases, can never be at a stand to know what is past. However, as all this is a pregnant Argument of Skill, and as that can't be acquir'd without due Study and Information, I shall conclude these Sheets with giving Students in Physick some short Directions how to lay in a sufficient Stock of that Science.

AFTER they have taken a sufficient Care to be well instructed in School-Learning, namely, the Latin and Greek Tongues, and have been instructed in all the Parts of Philosophy, and have a tolerable Knowledge of the Mathematicks, their next Step must be to be thoroughly inform'd of the Parts of a Human Body; if we are ignorant of this, we can guess at no Symptoms, nor give any *Rationale* at all; we are utterly in the Dark, and practise by Chance: There is so great a Dependence between this Knowledge and the Exercise of the Profession, that the Cause may lodge in the Head or Bowels, when they deem it to be in the Lungs; so surely is a Right-line the Measure of itself as well as of oblique ones. When we know how the Parts or the Secretions ought to be by Nature, we surely know they are under Disorders, if they answer not our Informations we receiv'd of them in Anatomy. The
readiest

readiest Method of acquiring this Skill is by Dissections; Books are lame Instructors of themselves: They rub up our Memories indeed, and serve us to recognise, but are not to be trusted at first. When we have by a Course or two seen all we can, rest a while, and make the Knowledge of it habitual to us before we proceed to another Study; when we can readily remember the Parts and their Names, 'tis then a proper Season to proceed to the Study of *Chymistry*, which ought also to be seen; there is not indeed much to be learn'd by the Courses, as they are now taught, because, to see Tinctures, Spirits, Resins, Salts, Calces, Precipitates, and such-like Medicines prepar'd, is barely Mechanical; but the main Point is to know the principle Bodies are compounded of, which is too little regard-ed. When this Course is over, we ought to pause here also, till we have perus'd some choice Authors on these Preparations, and have acquir'd a facility of Reasoning on them. 'Tis now high time to proceed to *Botany*: The Knowledge of Plants is no farther necessary than to prevent our being deceiv'd in them; and at the time we set out in the Study of *Botany*, we ought to inspect into *Pharmacy* also; the Knowledge of Faces is commendable, if we don't turn it into a Vice: A few Plants or Drugs
serve

serve our turn; and so soon as we have made them our Acquaintance, bid them adieu: To be a compleat Botanist is a Vice commendable enough for one in a County; it is not their Faces we want to know, Physicians much embowel them, he must torture them to know how to ease his Patients: For this Purpose he ought to apply himself to the Study of their Vertues, and as that is not rationally attain'd to without a Collection of undoubted Experiments, without ocular Demonstration and true Reasoning upon those Facts, he ought to apply to proper Persons to instruct him what Effects they will have upon the Juices and Fibres; and this is what Authors call the *Materia Medica*. When he has been instructed in all these Parts, he ought then to be inform'd in the *Practice*, both General and Special: The Scheme should be *short, easy, methodical, and comprehensive*; *short*, that they may not be puzzled with too great a huddle of useless Notions; *easy*, that their Imaginations may not be kept too hard at Work nor their Understandings disturb'd; *methodical*, for nothing conduces so much to assist the Judgments as a true Method, it connects the Parts of a Science with such a natural Harmony and Order, as to be capable of being retain'd for ever; and lastly, it should

should be *Comprehensive*, and contain all Cases that have hitherto appear'd in Physick; without this last Circumstance the Scheme is invalid; and it ought to appear demonstrably, that this is universally true: It may indeed be thought a hard Task to prove any Scheme so perfect, as to take in the whole Compass of Observation; however, it is not baaily possible: A Scheme by being perfect does not exclude incurable Diseases; it shews how they are to be manag'd, but does not propose Impossibilities; it includes all minute Divisions, which the various Distempers we labour under can admit of, and adapts Remedies proper for such Variety. When Students are become Masters of this Method, and have descended to Particulars enough for such an End, they are then put to visit the sick in Company with a proper Guide, who can exemplify the preceding Method in all its Circumstances: This last Step is not so absolutely necessary, but that a little Diligence, good Sense, and consulting with a Person vers'd in the aforesaid Scheme, will supply the Defect of having seen Patients, as is the Case in *Germany*.

THESE Steps are the true Foundation for making a Physician eminent in his Profession; 'twere better to want those celebrated recommendatory Embellishments, than these last Accomplishments: A Person understand-

derstanding Classical or Mathematical Literature, makes a sorry Figure at the Sick's Bed-side, without the exact Knowledge of his Profession: I am far from discouraging young Men from loading themselves with any useful Knowledge ; but too many begin to study Physick too late, they have employ'd their Days in Sciences foreign to their Occupation ; and when they begin to Practise, it seems as if they ow'd no Service or Good to their Neighbours, but to themselves ; or, as if they did not begin a Business, but set up a Trade.

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